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An Address
ON
THE VALUE OF THE ADDITION OF CITRATE OF SODA TO COW'S MILK IN INFANT FEEDING.

Delivered at the Hospital for Sick Children, Great Ormond-street, on May 26th, 1904.

By F. J. POYNTON, M.D. Lond., F.R.C.P. Lond.,
ASSISTANT PHYSICIAN TO UNIVERSITY COLLEGE HOSPITAL AND TO THE HOSPITAL FOR SICK CHILDREN, GREAT ORMOND-STREET.

LADIES AND GENTLEMEN,—I dare to take up the threadbare subject of the artificial feeding of the infant only because I have the special object in view of introducing to your notice the value of citrate of soda. In order to do this it will be necessary very roughly to sketch in outline the difficulties which confront us in the feeding of the infant by artificial means and then to show when citrate of soda is likely to prove of use.

Two Principles in Artificial Feeding.

When a child is taken from the breast or has never been put to the breast he has to be fed in some way or other. We naturally wish for a counterpart to human milk. Unfortunately we cannot obtain it. Nevertheless, we attempt to imitate it in some measure and are always trying new devices to obtain success. In this search there seem to be two rather different principles involved; true, they are not sharply demarcated from one another, but those who lean strongly to one or the other of them certainly differ to some extent in their methods. One of these principles always keeps in view that human milk is, what for need of a better expression I would call a vital fluid, meaning by this that its elements are very subtly blended. To this perfect blending of its elements those who keep this principle in view attach much importance. The other principle keeps in view the percentages of the chief elements in human milk and aims for a fluid which has the same percentage composition so far as its proteids, fats, and carbohydrates are concerned. It is true that these two principles are interwoven, but they determine rather different lines of treatment and imply a rather different mental attitude toward the problem.

Those who are impressed with the subtle composition of milk attempt to replace it by using other milks, such as asses' milk or cow's milk, either unaltered or simply diluted. Those who have faith in the correct proportions of the chief elements incline to the use of various forms of substituted milk and humanised milk. The former, when they are confronted with a case of infant atrophy from improper feeding, dwell rather upon the *nature* of the elements in the particular diet as being at fault: the latter dwell rather upon the *amount* of the elements in the particular diet—be they proteid, carbohydrate, or fat—as being at fault.

For myself, I attach more importance to the peculiar nature of the fluid that is used than to its percentage composition. It is certainly most important that we should know with some accuracy the percentages of the chief elements in human milk, but it is doubtful whether considerable variations in them make any real difference to a child with a good digestion. My sympathies are on the side of mothers who, when their infants are taking milk well, complain that they are not satisfied with food of such-and-such a dilution, which happens to be the rule-of-thumb dilution for that age. I should not tease such infants with more meals but, on the other hand, I should not be influenced in the least by a table of percentages. With a lack of faith in percentages and decimal points goes also a distrust of humanised milks—of milks with bovine bodies and human faces. I distrust them especially when they have been sterilised for long periods of time.

Practical Difficulties.

So much for these two principles; next for some practical difficulties. If we begin at the very beginning we must first compare the percentages of some of the chief elements in human and cow's milk, which are approximately:—

	Human milk.[1]	Cow's milk.
Proteids	1·5	3·0
Fat	3·5	4·0
Carbohydrates	6·5	5·0

The differences in these percentages are clear enough and it is well known that for infants cow's milk should be diluted and a little sugar and cream added. Unfortunately, often enough this dilution of the milk does not touch the real difficulty, which depends upon the differences between the digestibility of human milk and cow's milk—a difference which depends in great part, though not entirely, upon the curd. Before touching upon this great difficulty, however, a few words upon the boiling of milk and its dilution are required. A healthy infant will thrive better on fresh cow's milk than on boiled milk. Unfortunately, in large towns we cannot promise a baby fresh milk. This is a penalty of civilisation and we have accordingly to make the best of circumstances. The more one thinks of this the more one is forced to see how impossible it is, except with extraordinary advantages, to feel sure that the milk in towns is safe. The many loopholes for contamination between the cow and the baby's stomach cannot at present in this country be stopped up, so we boil the milk, raising it to the boiling point for two or three minutes. The best diluting agent would appear to be good drinking water which has also been boiled; it is better, I believe, than either barley water or lime water.

Now comes the difficulty in the digestibility of cow's milk. Sometimes this is so great that to some infants it would appear to be almost a poison and in some of these cases it is interesting to trace an hereditary tendency to this idiosyncrasy. There is apparently some mysterious difference in the nature of cow's milk, which sometimes no alteration of the curd will put right, and for this reason I think it must always be that no one method for the artificial feeding of infants will always succeed. Herein, too, no doubt lies the little germ of truth which is always present in popular beliefs. I allude to the widespread dislike to giving cow's milk as well as human milk when the supply of the latter is insufficient. The dilution of milk makes the curd more digestible, but with this advantage there creeps in a frequent danger—in hospital practice a very real danger—namely, that of the over-dilution of milk. In correcting one fault there is the risk of incurring another. It is clear that although one may not be influenced very greatly by percentages it is essential that sufficient nourishment should be given to a child and if he has too little and too dilute food he will become flabby, anæmic, and prone to rachitis. Then, again, the milk which the poor get is often enough inferior, especially in fat, and this milk with dilution becomes insufficient for the child to make any real progress. It is so easy, too, to lose sight of this fact in a heavy out-patient department and as likely as not the mother will go blindly on, happy in the thought that the baby is not screaming with indigestion. In this hospital and in other children's hospitals this danger is guarded against by printed directions which are an inestimable boon to the community, though even these are lost or not read by the careless ones.

While dealing with this question of dilution it will be useful to give three more tables of percentages: one in which the milk has been diluted with two parts of water, one in which there are equal parts, and one in which there are two parts of milk to one of water. The numbers are as follows[2]:—

—	Human milk.	Cow's milk. I. 1-2 of water.	Cow's milk. II. Equal parts.	Cow's milk. III. 2-1 of water.
Proteids	1·5	1·0	1·5	2·0
Fats	3·5	1·3	2·0	2·8
Carbohydrates	6·5	1·6	2·5	3·3

It is clear from these tables that even with two parts of cow's milk to one of water there is not enough fat. And yet

[1] Quoted from Cheadle's Artificial Feeding of Infants, fifth edition.
[2] Ibid.

this proportion often is not reached until about the sixth month. It is easily remedied by adding cream, but to order cream is often to order more than a struggling mother with a large family can afford. There is then a very real danger in hospital practice of underfeeding infants, and yet the golden rule for feeding them is to urge them cautiously forward rather than to descend to meet them at the lower level.

There are all sorts of methods for meeting the great difficulty of the indigestibility of cow's milk and for giving the child sufficient nourishment. The humanised milks, for example, retain the fat and reduce the proteid but they do not alter the intimate nature of the curd and if they are sterilised for long periods there appears to result a damaging effect upon their value as nourishment. Dr. W. B. Cheadle in his wide experience has met with cases of scurvy from the use of such milk over many months. The substituted milks are expensive and for some reason or other when they are used children do not always seem to thrive as one might expect.

Then there are the numerous patent foods. To enter upon that subject would take more than one lecture. To condemn them utterly would be a mistake, but an efficient substitute for milk over any period of time they can never be. They are, in some cases, an aid to its digestion and after six months are often useful additions to milk but they are not substitutes for milk. So much is quite clear. I need only mention the danger of scurvy. There is another practical difficulty about their use. No one can feel sure which of them will suit a particular case, and so there often results an uncertainty in treatment which is a serious matter. First one food is tried, then another is tried, then another, and each one is, as it were, an experiment. A condition of mind arises as a result of this, which I can only compare to that of an ant when you have cut off the top of its ant heap with a spade. As the ant rushes about panic stricken with its egg, so the mother rushes with her baby from one food to another, and from one medical man to another. The fate of the baby is not uncommonly scurvy. Condensed milks are no real substitutes for milk, although in the hot weather they are often very valuable in hospital practice.

Asses' milk is known to be a most valuable milk for delicate infants, but it is only possible for the rich, and in ordinary hospital practice it is absolutely out of the question. It possesses these great advantages—that it is a natural fluid which can be given without dilution or boiling. Its average composition is:—

Proteid	1·6
Fat	0·9
Carbohydrate	5·6
Salts	0·4
Water	91·5
	100·0

True, it lacks fat, but it is easily digested and the fat can be supplied as cream.

There is little wonder that amidst all these various devices we get lost. There is the physician's side of this question as well as the parent's, and I believe I shall express the feelings of many when I say that nearly every method which has been mentioned has been of use, but we still want a standard method. With the well-to-do, apart from wet nursing, asses' milk, to which cow's milk is gradually added, will answer most purposes. With the poor, however, it is most difficult to find such a method, and it is not unexpected, I think, that substituted and humanised milks are sometimes very unsatisfactory. There are several reasons for this. Attempts are made to produce a sterilised fluid, one which has the percentage composition of human milk and has also a digestible curd. In trying to attain these three objects injury to the nourishing fluid must be liable to occur.

THE REASONS FOR THE USE OF CITRATE OF SODA.

This exceedingly brief and general sketch of the difficulties with which we have to cope will serve to introduce the object of this lecture, which is to draw attention to the value of citrate of soda in infant feeding, especially among the poor. With so many different methods already in existence it may fairly be asked, Why burden us with yet another? Let me then focus these reasons. We want a method which is simple and cheap, which the poorest mother can use and the least understanding of them grasp; we want a method which we can control with some accuracy, which keeps us in touch with the infant, and which among the poor avoids, to some extent, the danger of under-feeding. For them asses' milk is out of the question. "Humanised" sterilised milks are rather expensive, as, too, are substituted milks. The poor ca relied upon to make peptonised milk and home-mad anised milks. Patent foods and condensed milks have grave objections when used as complete foods. I hope, then, that the use of citrate of soda will be justified. First of all, let me say that I am indebted for the idea to Dr. A. E. Wright. This idea I have applied for nearly a year in a number of cases and with the assistance of our excellent dispenser, Mr. Peck, have reduced the method to one of the utmost simplicity.

THE PRINCIPLE OF THE METHOD.

The principle of its use was clearly indicated by Dr. Wright in a short note in THE LANCET of July 22nd, 1893, and again alluded to by the same writer in 1902.[3] The title of the communication was "On the Possible Advantages of employing Decalcified Milk in the Feeding of Infants and Invalids." From this I will give a short abstract. Arthus and Pagès had ascertained that cow's milk when treated with oxalates and fluorides did not clot with rennet because the lime salts of the milk had been precipitated by their addition. If, on the contrary, instead of adding these salts lime salts were added to the milk the clot that formed with rennet was denser than usual. Dr. Wright applies this principle to the question of infant feeding and points out that there are two forms of milk curdling. The first, curdling with rennet, in which, as you see from this tube, the clot is firm. This is the curdling which takes place when the stomach is empty. The other with acid, in which, as you see, the clot is loose. He believes that much of the milk dyspepsia of infants is a result of the indigestibility of the *rennet* curd of cow's milk, for it is rennet curd that is formed when milk is taken on an empty stomach. If then, as Arthus and Pagès observed, some of the lime salts in cow's milk are precipitated the clotting by the rennet will be delayed in time and be less firm in its consistence and thus become more digestible. Further, cow's milk can afford this precipitation of some of the lime salts because they are present in it in great excess as compared with human milk. The oxalates and fluorides used by Arthus and Pagès are, however, poisonous salts; for this reason Dr. Wright suggested citrate of soda as the reagent for the practical application of the principle to the problem of infant feeding.

I have worked through in the laboratory the steps that Dr. Wright took to arrive at a clear idea of the influence of citrate of soda upon the milk, and I show these three test-tubes of milk so that you may judge these results for yourselves. Each test tube contains exactly an ounce of milk. Tube I. contains unboiled milk to which have been added five drops of rennet and five drops of a 0·5 per cent. solution of hydrochloric acid. The acid itself was not present in sufficient quantity to clot the milk alone. Tube II. contains boiled milk to which five drops of a 0·5 per cent. solution of hydrochloric acid and five drops of rennet have been added. Tube III. contains boiled milk with five drops of rennet and five drops of a 0·5 per cent. solution of hydrochloric acid and *three grains of citrate of soda*.

All these tubes were placed in the incubator for the same time and the difference in the clots is very evident. In Tube I. (unboiled milk, rennet, and acid) there is a massive clot. In Tube II. (boiled milk, rennet, and acid) there is a massive clot. In Tube III. (milk, rennet, acid, and *citrate of soda*) there is a very fine clot, the fluid looking much more translucent than any of the others. This is the principle of the method as demonstrated in the test tube and represents the process in the infant's stomach. If instead of using three grains of citrate of soda to the ounce of milk two are used the clot is less fine, and with one grain still less so.

Experience has shown, as Dr. Wright has also pointed out to me, that a good working formula is one grain of citrate of soda to the ounce. The most accurate method, however, is to take the particular sample of milk each morning and to test the clot with rennet and dilute acid, for cow's milk varies a good deal with different samples. If the clot is denser than usual more citrate is needed; if less dense, less

[3] Wright and Knapf: A Note on the Causation and Treatment of Thrombosis occurring in Connexion with Typhoid Fever. Transactions of the Royal Medical and Chirurgical Society, vol. lxxxvi.

citrate. We cannot expect mothers in the poorer classes to do this and so I content myself by judging from the severity of the [illegible] much of the citrate to use.

METHOD OF PROCEDURE.

The exact method of procedure is as follows. Let us suppose we have an infant of four weeks before us whom the mother cannot nurse and who for two weeks has been fed upon cow's milk or some modification with indifferent success. The mother has told us that the child is wasting, that he is in pain and dribbling from the mouth. The stomach is hard, the motions are undigested, he has occasionally vomited, and he is altogether unsatisfactory.

First of all the infant is weighed by the nurse and the mother is requested to have the child weighed here each week before I see him. It is assumed that there are in this case no organic disease and only a definite yet not very severe indigestion. I decide then to begin with citrate of soda in the proportion of one grain to the ounce of milk. I order two tablespoonfuls of milk and two of water every two hours. Both milk and water are boiled and the usual directions as to the bottle are given. Then I write a prescription:—"Sodii citratis gr. i., aquæ ℥ i. Signa. To be added to each feed." The dispenser gives the mother a 12-ounce bottle, which is equivalent to 96 drachms—that is, since there are 12 feeds in the 24 hours he gives her sufficient for the week. I order one grain in this instance because each feed contains two tablespoonfuls—that is, an ounce of milk. The drachm of water makes no real difference for the milk is ordered a little more concentrated than usual. If I decide to give two grains then the prescription reads: "Sodii citratis gr. ii.—℥ i. of water for each feed." Suppose, again, a child taking six tablespoonfuls = three ounces of milk and two tablespoonfuls of water and I decide to give citrate of soda in the proportion of *two* grains to the ounce of milk the prescription runs: "Sodii citratis gr. vi.—℥ i. of water in each feed." Nothing could be more simple than this, and the mother, who naturally believes in medicines, is well satisfied.

It may be necessary to correct at first by suitable remedies any fermentation from the previous dyspepsia, but that at the present moment is a side issue. Each week I am guided by the report and the weight of the child and aim at increasing the proportion of milk in the diet. When I increase the milk I must also increase the citrate of soda in the teaspoonful of water in the proportion of one, two, or three grains to each ounce of milk according to the proportion I have decided upon. When the condition is steady and the weight is satisfactory I can, at will and with caution, slowly diminish the citrate and do so when the infant is taking at least two parts of milk to one of water with comfort. Sometimes the proportion of citrate of soda must be increased at the commencement, because the symptoms of dyspepsia are not overcome by the proportion of one grain to the ounce.

Does this method seriously violate our principle that milk should be tampered with as little as possible? I think not for these reasons: There is evidence that citrates are present in cow's milk and in human milk. Again, there is, as compared with human milk, excess of lime salts in cow's milk. Some of this excess, then, is precipitated by the use of a salt naturally present in both milks and by this precipitation the curd of cow's milk becomes more easily digested. Considerations of the chemistry of the process show that the addition of one grain of citrate of soda to the ounce of milk does not by any means reduce this excess to any marked degree and there is no danger of a lack of these important salts.

Citrate of soda is cheap—about 2*d.* an ounce—and very soluble; it is cheaper than citrate of potash and from investigations that I have made in our laboratory more effectual than that salt. On account of its solubility the teaspoonful of water as a vehicle can always remain a constant—a great assistance to the practical application of the method. A solution of the strength of 20 grains to the drachm will show no precipitation and such a strength as that would never be used. A little chloroform-water should be added to the bottle which has to last a week, because a fungus growth sometimes forms in the dilute solution, as will sometimes occur, as Mr. Peck has shown me, with dilute solutions of bromide.

The infants have never, in my experience, refused this milk. In the strength of one grain to the ounce it alters the taste very slightly indeed, as I can bear witness Citrate of soda is a neutral salt and does not tend to inhibit the secretion of the gastric juices as do the alkaline salts. You might, perhaps, fear rickets or a poor formation of bone from the precipitation of the lime salts, but it must be remembered that these salts are in great excess in cow's milk, and that though the excess is diminished the process is not carried on to complete precipitation. It seems doubtful also whether the excess of lime which is thrown out by the citrate, though taking no part in curd formation, is entirely unabsorbed into the system. I have not seen any failure in bone formation up to the present time. The drawback that I have met with has been constipation, and this is a frequent occurrence, but I have always managed to correct it with small doses of carbonate of magnesia and it has never been a really serious symptom. Dr. Wright has, on the contrary, noticed that constipation is not common.

I have never met with any ill effect from this treatment. It may not always succeed but it does not appear to add dangers to the usual difficulties we have to face.

This method has its limitations; it is not, I think, a powerful remedy, at least as yet I have not found it such. In bad neglected cases it may fail and organic disease, such as congenital hypertrophy of the pylorus, is not influenced by it. It is not going to assist us in the acute stages of gastro-enteritis, dependent not upon indigestible milk but upon bacterial poisons. There are cases—I shall show you one—in which there does not seem to be any power to digest milk. In that case I was obliged to fall back upon Dr. Cheadle's mixture of veal-tea, whey, and cream. On the other hand, I have yet to pursue the investigation of the more difficult cases, for at present I am only reporting on mild cases of dyspepsia and upon the value of this method in the prevention of milk dyspepsia.

There are here to-day ten infants whom I have treated in this way. Some are at the end of the treatment, others are in the middle of it, and others again are just commencing. These cases are not picked cases; they are, as a matter of fact, those which I happened to be treating, with one or two exceptions, at the time that the date of this lecture was fixed. Altogether I have treated some 50 children in this way. To summarise some of the chief facts that they illustrate. All of them were ill when they came here. None of them were healthy babies whom the mother had brought for advice as to how to feed when weaning them because of failure of the breast milk. They were all on the down grade and the failure in health had to be corrected. On the other hand, none of them were urgently ill, though several were almost skeletons. An infant who weighs less than five pounds at four weeks, whether premature or not, is not a very encouraging subject, yet two of them here have done excellently. The arrest of the down-hill course has usually taken about a fortnight, then there is a steady gain of four, five, six, or even seven ounces in a week. I have been cautious in the matter of the dilution of the milk, but now after almost a year's experience I am more confident and there are several children of six weeks and two months taking two parts of milk to one part of water with comfort. I neglect the excess of proteid when the milk is digested, but must not forget to increase the citrate as the milk is increased. Dr. Wright is bold in his advocacy of the non-dilution of milk and gives it undiluted.

The ease and confidence of the method are conspicuous and a great boon in an outpatient department. There are the weekly weight, the mother's report, the look of the infant, and the dose of citrate; four guides to the exact position of affairs. In half an hour one can assure oneself of the conditions of a number of these children and I have no fear of over-dilution, of scurvy, or—should things be going badly—of overlooking the fact. In the majority of these cases it is quite plain sailing, and when I get to two parts of milk to one part of water I decrease the citrate little by little and then leave it off. If the dyspepsia persists I add more citrate and when there is a gain in weight, even though the symptoms are not altogether cured, I use a little patience before stopping the citrate. It must not be forgotten that the dyspepsia may sometimes be due to other causes than the proteids. The fat may upset the child, or the milk be impure or contain some antiseptic, such as excess of boric acid. The method is not then infallible, for it only deals with the curd.

Several times the mothers have given unsolicited testimonials to the value of the method by saying that the medicine was finished, and for some reason or another they

were unable to bring the child here, whereupon vomiting and dyspepsia had recommenced. These children are not examples of splendid infants, that one can hardly look for among these poor things, but they do not show any lack of bone formation, and are, so far as one can see, quite as firm as other infants of this class.

It is not supposed that no other method of feeding would have saved them. I do not say that for one moment, but there is evidence enough here to show that the principle of this method is not a mere laboratory theory but a very practical fact.

The method wants a little practice in order to judge the amount of citrate to use, and it is a mistake, I think, to permit the weighing of the infant more than once a week unless there is some very special reason. Daily weighing I look upon as an added terror to motherhood, for if there is decrease in the weight this upsets the household and yet does not help us, for it is out of the question, whatever method is used, that our method can be altered every day.

SUMMARY.

In conclusion, the advantages in the use of citrate of soda appear to me to be: 1. It renders the curd of cow's milk more easily digestible. 2. It is cheap. 3. It is convenient to handle, easy to control, and progressive in principle. 4. It allows the milk to be given in a more concentrated form and thus avoids to some extent the danger of underfeeding. 5. There is no danger of scurvy. 6. Given as a medicine it gains the confidence of the mother.

The indications are (1) as a routine for weaning a healthy infant on to cow's milk; and (2) for correcting milk dyspepsia. The drawback is a tendency to constipation which is, however, easily controlled and is not the experience of Dr. Wright.

The limitations are: 1. In rare cases of complete intolerance of cow's milk. 2. In severe cases of gastro-enteritis from impure milk. 3. In organic disease, such as congenital hypertrophic stenosis. 4. In very intractable cases which have been subjected to all sorts of different methods beforehand. This limitation, as I have said earlier, needs more investigation.

If, then, I was asked for a routine method for the artificial feeding of the poor child I should say: First try citrate of soda in the milk, provided the milk is sound.

Portman-street, W.

A Lecture

ON

INFECTIVE CYCLITIS (SO-CALLED SYMPATHETIC OPHTHALMIA).

Delivered at the West London Post-Graduate College

BY H. PERCY DUNN, F.R.C.S. ENG.,

OPHTHALMIC SURGEON TO THE WEST LONDON HOSPITAL.

GENTLEMEN,—Time is always of service in the evolution of problems of science and in the department of ophthalmology time has come to our aid on many a notable occasion. The proper attitude to adopt when problems of great scientific import confront us is not to give them up because many vain efforts have been made to reveal them, but to hold our souls in patience, with the conviction that as time advances their solution will come. This may assuredly be said to be the case in respect to that disease which forms the subject of my lecture. So far its precise etiology has formed an insoluble problem in ophthalmological science, and I have chosen it for discussion to-day partly because of the great interest of the subject and partly by reason of the fact that it lends itself to speculative convictions which the knowledge that we already possess concerning it, to my mind, partly warrants.

But here let me crave indulgence for a brief digression in order to draw attention to what I believe to be an illogical conservatism pervading the department which I represent. I allude to the retention in the present day of many old-time, obsolete expressions to be found in the terminology of ocular diseases. First, we often hear and read of the synonym "ciliary" blepharitis. Why "ciliary"? How is it possible to conceive of an inflammation of the lids without the follicles of the lashes being involved? Do dermatologists speak of "ciliary" dermatitis? Next, the "crystalline" lens. Why "crystalline"? Everyone in these days understands what is meant when reference is made to the lens of the human eye. To define it, however, by the adjective "crystalline" is suggestive that another lens exists in the human body, possibly in the appendix or elsewhere, more particular reference to which would not be considered to be in good taste in polite society. True, there is a certain grandiloquence environing the expression which may have had something to do with its retention. Thus it enables an ophthalmic surgeon to say, "I performed an extraction operation of the crystalline lens for senile cataract," which statement no doubt, given with a due impressiveness of diction, would be greatly calculated to create an effect upon the mind of a layman. But suppose that the layman upon whom the operation was performed was an eminent physicist of an inquiring turn of mind. In such circumstances he might say to his surgeon, "I suppose when the lens is crystalline it does not require to be extracted. On the other hand, it appears to me that when it is cataractous it cannot be crystalline. I judge that this is the case from the fact that pure water possesses crystalline properties; nevertheless, I cannot conceive of the term 'crystalline' being applied to water which is muddy and opaque." And all that the surgeon could say in reply would be that custom had sanctioned the use of the word, no matter what the condition of the lens might be. Of course, the term "crystalline" has come down to us from the old anatomists, who spoke of the vitreous body, the crystalline body, and the aqueous body, referring to the vitreous, the lens, and the aqueous respectively. But it must have been someone long after the time of the ancients who introduced the term "crystalline" lens into the literature of ophthalmic science.

Next we come to the expression "phthisis bulbi." What does this mean? The natural inference to be drawn from such a term would be that the eye was the seat of general tuberculosis, or, to speak perhaps more correctly, was generally tuberculous. As a matter of fact, however, there is no more tuberculosis in a phthisical eyeball than there is transparency in a "crystalline" lens which is absolutely opaque from cataract. Whence, then, has this word "phthisis" been derived in this connexion? When or by whom it was first introduced I know not. But its employment in the present day is for the purpose of making a fanciful distinction between eyeballs which have passed into an atrophic condition as the result of panophthalmitis, as compared with those in which the nutrition has failed owing to some disturbance of the integrity of the ciliary region. It is evidently considered that such a distinction is not fanciful but requisite, because while atrophy in the former case is not liable to be followed by harm to the fellow eye, on the other hand so-called sympathetic mischief may supervene when injury to the ciliary region is the cause of the atrophy. Is it necessary to discuss this example of out-of-date ocular nomenclature any further? I think not, for it is impossible to dispute that in these days the term "phthisis" in this connexion is misleading, unnecessary, even pedantic, and that it would be just as wise to speak of "appendicitis" bulbi.

Again, what is meant by the word "strumous" as applied to certain ocular diseases? There is nothing strumous in ocular surgery any more than there is nowadays in general surgery or general medicine. Thus it is scarcely needful to remark that the expressions "struma," "strumous," and "scrofulous" have become entirely obsolete and now possess no scientific significance.

What relevancy, however, have these remarks to the subject which I have ventured to bring under your notice this afternoon? I may hasten to explain that they have a close bearing upon that to which I shall afterwards claim your attention. Let me next proceed by referring to the large class of diseases known under the name of ophthalmia. What is the meaning of "ophthalmia"? "Ophthalmia," says a writer in Quain's "Dictionary of Medicine" (1883) "is a general term which might be used to express any morbid condition of the eye, but which is restricted by custom to the forms of inflammation which originate in the superficial structures of the organ, such as the varieties of conjunctivitis, or the phlyctenulæ which sometimes appear upon the cornea and give rise to shallow ulcers." That is to say, catarrhal ophthalmia, thus inaccurately described, which

is the simplest of all ocular diseases, has just the same significance from the point of view of nomenclature as so-called sympathetic ophthalmia, which in the older days was the most destructive. And here I take leave of this question of ocular nomenclature. I have adduced, I think, sufficient evidence to show that it is capable of much reorganisation and improvement.

So long ago as the latter part of the seventeenth century it was known that inflammatory changes in one eye could be followed by destructive inflammation of the other. From that time onwards the subject has attracted a great deal of attention. From the first it presented many difficulties, which difficulties in a sense remain, for although the etiology of this so-called sympathetic disease still exists as an unsolved problem, yet it is indisputable that the disease has undergone much modification compared with that observed by our forefathers. In 1835 a prize essay was published on the subject by von Ammon, in which he records several instances of what he describes as "diseased sympathy" occurring in healthy eyes following the development of traumatic iritis in eyes which had received some injury. Possibly, however, Demours, in 1818, was the first to give a detailed description of the disease; he narrated three cases of the kind which had come under his notice, and, based upon this experience, he expresses the opinion that the disease was one of the gravest in practice and possibly beyond the resources of science. All previous observations, however, upon the subject were eclipsed by those of the celebrated ophthalmic surgeon Mackenzie who, in 1844, in his work on "Diseases of the Eye," added much to our knowledge of the disease. "It is," he says, "a very serious disease: indeed, it has generally proved, in the long run, intractable in our hands, and as it follows, and is in fact the result of, in one eye, previous mechanical injury which has already greatly impaired or destroyed the other, the treatment of it involves a heavy responsibility on the part of the practitioner." He gives a succinct and accurate account of the kind of injuries to an eye which would be likely to cause harm to the fellow organ. He discusses the limits of time during which the incidence of the disease may be anticipated and describes fully the onset, progress, and termination of the affection, so far as his experience of it went. "The local symptoms," he says, "of sympathetic ophthalmia are those of iritis, passing rapidly into amaurosis and atrophy of the eye." Again, he remarks, "the prognosis is so unfavourable that it is our duty to guard the patient who has suffered any severe injury of one eye against the exciting causes of sympathetic ophthalmia from the very first. When this disease is actually present even the most active treatment is generally ineffectual. Indeed, I have never seen an eye recover from sympathetic ophthalmia. Renewed attacks have generally terminated in extinguishing vision." The treatment upon which Mackenzie relied was "rest, antiphlogistic measures, and the use of mercury." "But these means," he further adds, "we have abundant proof, are not very successful." Practically hopeless, then, it would seem were the prospects in Mackenzie's day of saving an eye in which an attack of so-called sympathetic ophthalmia had developed and severe, indeed, must have been the ordeal of the treatment of the disease both for surgeon and patient: for the surgeon owing to the painful anxiety arising from the failure of his efforts to combat the progress of the malady; most of all, perhaps, for the patient from the repeated leechings, venesections, continuous mercurial salivation, as well as the other devices comprised in that hideous Inquisitorial therapeutic creation known as "antiphlogistic measures." What in those days must have been the feelings of the ophthalmic surgeon who after a simple extraction operation for cataract in one eye some weeks afterwards had to acknowledge that his patient was hopelessly blind in both owing to so-called sympathetic ophthalmia having followed an unsuccessful operation. Eight years later, however, to the publication of Mackenzie's treatise a gleam of sunshine metaphorically pierced the gloom of this depressing condition of affairs. It was that furnished by the suggestion of White Cooper that in cases of so-called sympathetic disease it might be advisable to enucleate the injured eye. Then two years later the same suggestion was strongly urged by Pritchard. He narrates a series of 20 cases of the disease concerning which, he says, "this series of cases, consisting of persons of both sexes who have met with different kinds of accidents, as cuts, punctures, and rupture of the eye at all ages, but in each instance in one eye only, and in all of which incurable blindness of both eyes followed, is, I think, sufficient to convince anyone of the peril arising from destruction of one eye and for the necessity of care in pronouncing an opinion as to the probable result of any such case. I believe the proper treatment to be that which I have recommended—namely, extirpation of the injured organ as soon as there are evidences of inflammation in the other. This requires further experience, but I should not hesitate to urge the operation upon anyone who consulted me under these circumstances." Undeniably, it would have been best had the qualification comprised in the latter sentence not been added by the author. Possibly had he emphatically insisted upon the absolute necessity of enucleation his opinion would have tended to impress his contemporaries with the urgency of its adoption. As we now know, by that means the patient was afforded the only chance of having the secondarily affected eye saved from destruction. In the present day enucleation of the exciting eye is the indispensable method of treatment. But how much more was this procedure necessary in the days of our forefathers, during which the disease exhibited, as the records show, an intensity, a virulence and destructiveness surpassing anything of the kind with which its incidence is now associated. Happily, however, with the lapse of time it came to be generally conceded that enucleation of the exciting eye was urgently called for in the treatment of so-called sympathetic ophthalmia, and then it was that the results of the treatment began to assume a more favourable and encouraging aspect. Nevertheless, out of this newly recognised method of procedure a tendency to exaggeration arose, fostered by the desire to avoid the incidence of the disease. Experience had long taught that so-called sympathetic ophthalmia usually followed wounds of the ciliary region. Therefore the opinion became current, "Given a case of wound of the ciliary region, why expose a patient to the risk of an attack of inflammation in the fellow eye? Far better to enucleate the injured organ at once, for, by this means, the integrity of the other will not be imperilled." Presumably in the days when this practice was followed many eyes were preserved from an attack of so-called sympathetic ophthalmia which otherwise would have been destroyed by its occurrence. At the same time, it must be conceded that were the same practice to be followed in these days many an eye would be sacrificed whose recovery would be possible with the retention of useful vision and without exposing the fellow organ to the risk of secondary inflammation.

Before proceeding further in the discussion of the subject I desire to offer a few comments upon the expression "sympathetic ophthalmia." And first I would ask, Is it in strict accord with modern pathology to speak of an inflammation as "sympathetic"? What is the pathology of sympathy? Can sympathy, so-called, be described and demonstrated as a concrete condition? We are aware of an emotional effect described as sympathy as exhibited by persons and animals. But it is difficult to understand how in such a sense sympathy can be displayed by inflamed tissues. As a matter of fact, when the cold, compassionless, unrelenting eye of science is turned upon the term "sympathetic ophthalmia" all the sympathy in it at once vanishes away. In proof thereof I may refer to the modern views held with respect to the etiology of so-called sympathetic ophthalmia: (1) that the disease commences in the ciliary region of the injured eye and is caused by a specific micro-organism; and (2) that the micro-organism creates a toxin which is conveyed by continuity of tissue, presumably by the lymph channels to the ciliary region of the healthy eye, in which by its irritating presence it causes a severe form of irido-cyclitis. There is surely nothing ethereal, spiritual, emotional—sympathetic—in an inflammatory process which is directly excited by the irritation of a toxin. I submit, therefore, that the term "infective cyclitis" is more accurate for the purposes of nomenclature and is more in accord with the pathology of the disease than the two-fold inaccurate one sympathetic ophthalmia.

In reflecting upon the characteristics of infective cyclitis as met with by our forefathers, we cannot fail to be struck (1) by the frequency of its occurrence and (2) by the virulence of its attacks. In respect to both of these points there is an overwhelming mass of evidence. But what are we in the position to say in the present day in regard thereto? Briefly, it can be asserted that the reverse is the case in each instance. So infrequent, indeed, has the disease become that even now we may almost describe it as a pathological curiosity. Six years ago in a lecture delivered in this

College, subsequently published in THE LANCET, I pointed out how seldom it was that infective cyclitis was met with. I was gratified to find from letters received that other ophthalmic surgeons, who had taken the trouble to inquire into their hospital records of recent years, were able to confirm the accuracy of this view. Since the year 1885, when I joined the staff of this hospital, two cases only of this disease have been under treatment. In the one many years ago the patient was a little girl who was admitted with a cystoid cicatrix following a perforating wound in the lower and outer quadrant of the corneo-scleral junction of the right eye. The injured eye had been treated elsewhere and had done well. The projecting loop of cicatrised tissue being very unsightly was snipped off with scissors and subsequently infective cyclitis supervened. The case was not mine. The second case occurred as recently as July, 1903, and as the notes thereof illustrate the present characteristics of the disease it will not be without interest to narrate them.

The patient was a woman, aged 62 years. She came to the out-patient department on July 23rd, 1903, with the history that for some weeks she had only been able to distinguish light from darkness with the right eye. She stated that in May, 1901, she was operated upon for cataract in the left eye at a London ophthalmic hospital. Unfortunately the eye went wrong and no recovery of vision resulted. When, therefore, she came to the hospital she was practically blind. Examination of the left eye showed a depressed linear cicatrix in the upper part of the corneo-scleral junction marking the situation of the section made for the extraction of the lens. Into this cicatrix the iris tissue had been dragged. The pupil was obliterated. The globe was slightly injected, tender on palpation, and tension was – 3. With regard to the right eye the ciliary and conjunctival vessels were deeply injected. On Descemet's membrane were numerous punctate opacities. The aqueous was turbid, the pupil was contracted, and the usual signs of plastic iritis were present. Tension was normal and the vision equalled perception of light. The patient was advised to come into the hospital at once for enucleation of the left eye. She, however, declined. But four days later she returned and was admitted. On the following day, July 27th, enucleation was performed. On the 28th the right eye was in a condition of *status quo*. She was ordered on admission hydrargyrum cum creta four grains twice a day, guttæ atropinæ two grains every four hours, and chinosol fomentations twice daily to the right eye. On the 29th the patient was able to count fingers at eight inches. The aqueous was clear, the pupil dilating a little in the upper part. On the 30th Descemet's membrane was clear of dotted opacities. The ciliary and conjunctival injection was almost gone. The pupil was irregular but of moderate size. She could count fingers at one yard. On August 8th the pupil was in the same condition as recorded in the previous note. The vision equalled about $\frac{6}{18}$. The patient was discharged. At the time of her discharge the patient was so satisfied with the improvement in her vision that she has not shown herself since. I am therefore unable to record the further history of the case.

Let me next briefly pass in review some of the evidence bearing upon the infective nature of this disease. Ever since the introduction of Listerism infective cyclitis has become more and more a vanishing pathological entity. This is not due to the practice of over-zeal on the part of ophthalmic surgeons in sacrificing wounded eyes in anticipation of the onset of the disease. On the contrary, at no time more than the present has conservative ocular surgery been so paramount or, I may add, so justified by the gratifying results with which it is attended. The obvious inference, then, is that the present infrequency of the disease is directly due to the observance of the principles of Listerism. Furthermore, I think that the undoubted diminution in the virulence of infective cyclitis must also be attributed to the same beneficent influence. Not only are the attacks of the disease in the present day amenable to treatment but it is more the rule than the exception, as recorded cases have amply demonstrated, for good results to be obtained therefrom. The argument has been advanced that infective cyclitis is now a rare complication of cataract operations because surgeons exercise much more care in placing the position of their sections. This contention, however, has but little to recommend it. It might almost as equally be said that tetanus has vanished as an after-complication of operation wounds in general surgery because surgeons are more careful in their use of the scalpel. If the precise situation of a section for cataract extraction were the real cause of the rarity of infective cyclitis in the present day, how comes it that lacerated wounds of the ciliary region will heal kindly without any such complication provided that they are treated with strict antiseptic precautions? The inference is indisputable that the only safeguard against infective cyclitis is absolute antisepticism. Moreover, there is no reason for supposing that under such precautions the ciliary region or any other part of the eye will resent operative interference, or under normal conditions exhibit in these cases other changes than those which belong to natural processes of repair.

How, then, does it happen that infective cyclitis occurs? We are justified, I submit, in assuming that infection takes place either at the time of the infliction of the wound, operation or otherwise, or subsequently, before the processes of repair are completed. If we fully accept the infective theory of the disease another difficulty is smoothed out. A general belief prevails that so-called sympathetic ophthalmia and so-called sympathetic irritation are separate and distinct as morbid entities. It is not necessary here to discuss the reasons upon which this opinion is based. Suffice it, however, to say that this opinion has always seemed to me to be illogical and unsupported by any analogical facts. The so-called irritation can only be of infective origin and due to intermittent and small doses of toxin, insufficient to cause a full outbreak of the disease but yet sufficient to excite modified symptoms. To this hypothesis analogy from other diseases lends much support, into the illustration of which, however, it is not necessary to enter.

I have now said enough to emphasise my belief in the possibility of infective cyclitis becoming an almost unknown disease or of remaining in so modified a form as to cause but little anxiety either to surgeon or to patient. By our acceptance of the infective theory, although, of course, it still lacks bacteriological confirmation, we are nevertheless placed in the position of knowing how successfully to avert and combat the disease—a disease, be it remembered, which by its virulence in former days consigned so many a hapless patient to absolute blindness. Possibly a specific micro-organism of infective cyclitis may never be isolated, but what matters that when evidence so infallible leads to the sound induction of its presence and enables us to act accordingly? The failure so far to isolate it may be explained by the incompleteness of bacteriological technique. The conjunctival sac may be described as the dumping-ground of the host of micro-organisms which are met with in the human body. Apart from those which it receives from without, as from wind and dust, dirty fingers, soiled handkerchiefs, contaminated water, towels, and coat sleeves, it is kept well supplied by cultivations from the nose and lacrymal sac, not to mention the possibility of another source of supply as furnished by disease of the neighbouring bones and inflammation of their sinuses. In view, then, of the conjunctival sac forming so favourable a medium for the cultivation of such a complexity of micro-organisms, and the impossibility of sterilising it, the wonder is not that a disease of the nature of infective cyclitis should occur, but that any intra-ocular wound or operation should escape septic contamination. The probability is that the best course to pursue is to rely more on the mechanical removal of micro-organisms than on any attempt to insure complete sterilisation of the conjunctival sac; it is, then, for this reason that after each step in my intra-ocular operations the wound is thoroughly douched with a 1 in 4000 solution of chinosol.

RUSSIAN DOMESTIC SERVANTS AND MEDICAL EXAMINATION.—In St. Petersburg a bureau has been opened for the hire of domestic servants with obligatory medical examination of those hired.

METROPOLITAN HOSPITAL SUNDAY FUND.—The following are among the amounts recently received at the Mansion House for the Hospital Sunday Fund: Mr. George Herring (first instalment), £11,540; Holy Trinity, Kensington Gore, £133; St. Luke's, Redcliffe-square, £170; St. Margaret's, Westminster, £135; St. Andrew's, Fulham, £107; Brompton Parish Church, £172; St. Stephen's, Westbourne Park, £176; Emmanuel Church, Streatham, £91; St. Mary's, Aldermary, &c., £58; St. John's, Deptford, £60; St. John the Divine, Kennington, £66; Christ Church, Chelsea, £60; St. Philp's, Sydenham, £41; All Souls', Langham-place, £48; St. John's at Hackney, £30; St. Mark's Presbyterian Church, Greenwich, £35; Barnes Parish Church, £38; total, £60.000.

SUGGESTIONS FOR THE PREVENTION OF PUERPERAL INFECTION IN PRIVATE PRACTICE.[1]

BY JOHN W. BYERS, M.A., M.D., M.A.O. (HON. CAUSÂ) R.U.I.,

PROFESSOR OF MIDWIFERY, QUEEN'S COLLEGE, BELFAST; PHYSICIAN TO THE BELFAST MATERNITY HOSPITAL; AND PHYSICIAN FOR DISEASES OF WOMEN TO THE ROYAL VICTORIA HOSPITAL, BELFAST; EXAMINER IN OBSTETRIC MEDICINE AND GYNÆCOLOGY TO THE ROYAL UNIVERSITY OF IRELAND.

ONE of the special advantages of the annual meetings of the British Medical Association is that it affords an opportunity of hearing the views of medical men from different places on the various questions which may be brought forward for discussion in the sections, and surely no subject is of greater importance, alike from a national as from a professional point of view, than that of the prevention of those conditions, so often fatal, which are due to puerperal infection. Since the introduction of the modern antiseptic and aseptic methods in the obstetric art an enormous improvement has taken place in the general results of midwifery practice. This is seen specially in the maternity hospitals. In my student days, and even in the early years of my practice, maternity hospitals were regarded by the public with the greatest suspicion. Puerperal fever was constantly breaking out in them and owing to this fact their wards had frequently to be closed and many members of the profession were in favour of aboli-hing altogether such institutions, while now all this is changed and there is no place in which a woman can be more safely located for her confinement than in a properly conducted maternity hospital. Of the many advances that I have seen since commencing practice nothing is more striking than the change brought about in the results of obstetric practice in lying-in hospitals by the adoption of the antiseptic and aseptic methods. The following statistics from two Irish maternity hospitals (at one of which I received my midwifery practical training while I am now on the medical staff of the other) are noteworthy.

1. *Mortality at the Rotunda Hospital.*—During the last two years (ending Nov. 1st, 1902, and Nov. 1st, 1903) there were 3370 intern cases with 15 deaths, and 4233 extern cases with nine deaths; that is, out of a total of 7603 there were 24 deaths, or a mortality of 0·32 per cent., and of these 24 deaths eight were due to sepsis (puerperal infection), that is a mortality of 0·1 per cent.

2. *Mortality at the Belfast Maternity Hospital.*—During the last two years (1902 and 1903) there were 638 intern cases with two deaths, and 555 cases in the extern maternity with two deaths, that is a mortality of four in 1193 cases, or 0·33 per cent., and none of the deaths were caused by puerperal infection. Adding together the cases from these two Irish maternities we have a total of 8796 cases with 28 deaths, or a total mortality of 0·31 per cent., and a mortality from sepsis (puerperal infection) of 0·09.

At both of these institutions midwives and students receive their practical training. The Rotunda Hospital in Dublin is the largest maternity in the British empire. The Maternity Hospital at Belfast is a very old one, with 16 beds and an extern maternity, but a new and greatly enlarged institution with every modern appliance is at present in the course of erection in that city and will be ready next year. It will be of the greatest assistance in the training of students and midwives in practical midwifery.

When we turn to private practice the brilliant results obtained in maternity hospitals, it will be seen, have not followed. Here are the latest available statistics on this question kindly given me by the Registrar-Generals of England, Scotland, and Ireland. I append them in the form in which they were sent.

England and Wales.—Death-rates from puerperal fever (under which term are included deaths recorded from puerperal septicæmia, puerperal pyæmia, phlegmasia alba dolens, and puerperal fever not otherwise defined) in England and Wales in the years 1900, 1901, and 1902.

Puerperal Fever.

Year.	Annual death-rates— To 1,000,000 females living.	To 1,000,000 persons living.
1900	121	63
1901	122	64
1902	118	61

The figures for 1903 are not yet available.

Death-rate in Scotland from Puerperal Septic Infection in the Years 1900 and 1901.

Year.	Deaths from puerperal septic infection.	Death-rate per 100,000 of female population.	Death-rate per 100,000 births.
1900	225	10	171
1901	287	13	217

The figures for 1902 and 1903 are not yet available.

Registration of Deaths, Ireland.

TABLE A.—*Showing for Ireland the Number of Deaths from Puerperal Septic Diseases (including Phlegmasia Alba Dolens) of Females aged 15 and under 55 Years and at the undermentioned Age Periods comprised in these ages during each of the Three Years 1900–1902.*

—	Deaths from Puerperal Septic Diseases in Ireland.					
Year.	Ages 15 and under 55.	Age periods. 15 and under 20 years.	20 and under 25 years.	25 and under 35 years.	35 and under 45 years.	45 and under 55 years.
1900 ...	235	2	28	131	72	2
1901 ...	230	3	30	121	74	2
1902 ...	220	7	28	112	73	3

TABLE B.—*Showing the Rate per 10,000 of the Number of Females in Ireland of the respective Ages according to the Census of 1901, represented by Deaths from Puerperal Septic Diseases of Females aged 15 and under 55 Years and at each of the Age Periods as shown in Table A.*

1900 ...	1·853	0·094	1·234	3·902	2·832	0·091
1901 ...	1·813	0·126	1·322	3·604	2·972	0·091
1902 ...	1·734	0·294	1·102	3·336	2·932	0·137

TABLE C.—*Showing the Rate per 10,000 of the Number of Married Women in Ireland of the respective Ages according to the Census of 1901, represented by Deaths from Puerperal Septic Diseases of Females aged 15 and under 55 Years and at the Age Periods as shown in Table A.*

1900 ...	4·997	11·306	9·257	8·549	4·616	0·155
1901 ...	4·891	16·969	9·918	7·896	4·744	0·156
1902 ...	4·678	39·570	8·265	7·309	4·680	0·233

The figures for 1903 are not yet available.

The number of deaths from puerperal septic diseases in Ireland also represent 23·3, 22·8, and 21·6 per 10,000 births registered in the years 1900, 1901, and 1902 respectively, and 5·3, 5·2, and 5·0 per 100,000 of the estimated population of both sexes at all ages.

In my presidential address delivered at the opening of the section of Obstetric Medicine and Gynæcology at the annual meeting of the British Medical Association in Cheltenham July 31st, 1901, I gave the statistics of mortality from puerperal fever in England and Wales, Scotland, and Ireland for the five years 1895–99 inclusive. While the above figures

[1] A paper read in the section of Obstetrics and Gynæcology at the Oxford meeting of the British Medical Association on July 28th, 1904.

give the mortality in obstetric practice it must always be recollected that there is another test besides (1) absence of mortality as an indication of successful midwifery work, and that is (2) absence of morbidity, by which we mean milder forms of puerperal infection recognised clinically by slight feverish attacks and having underlying pathological lesions, such as cellulitis, salpingitis or salpingo-ovaritis, and slight attacks of phlegmasia alba dolens—conditions which lead sometimes to secondary sterility and often necessitate subsequent gynæcological treatment.

The difference in the results in these two sets of statistics indicates that the chief mortality takes place outside maternity hospitals—that is, in general practice; and it is corroborated by Dr. W. Williams (medical officer of health to the Glamorgan county council) who, in his Milroy lectures, "Deaths in Childbed: a Preventable Mortality," recently delivered before the Royal College of Physicians of London,[2] shows "that during the last 20 years, when a more accurate registration has been adopted, upwards of 40 per cent. of the total childbed mortality has been caused by septic diseases." The 20 years are from 1881 to 1900. It is also a remarkable fact that during this period of undiminished puerperal mortality sanitation has made rapid strides and that both the occurrence of, and the mortality from, such diseases as typhoid fever and tuberculosis have gradually diminished, while "the mortality of lying-in institutions, both in their internal and external departments, has also decreased to the vanishing point" (Williams). These facts, as well as the circumstance pointed out by Dr. Williams that notwithstanding the precautionary measures adopted in general midwifery practice 4000 mothers are annually lost in England and Wales (speaking generally, it may be said that the deaths from accidents of childbirth and puerperal fever, as shown by the statistics of death registration, amount to about 4·7 per 1000 births and almost one half of these are due to puerperal infection; for example, there were in the year 1901 in England and Wales 2079 deaths from puerperal fever and 2315 deaths from other causes—accidents, &c.), as well as the statistics I have given, naturally raise the question, Why is it that the results of private midwifery practice are not so good as those obtained in maternities? I may be allowed to answer this by asking three questions:—

1. Is the practical teaching of students and midwives in obstetric work as thorough as it should be? Are midwives taught to appreciate fully all that is now known as to the causation of puerperal infection and the grave responsibility that this knowledge brings upon those engaged in that line of practice? Why is it that the licensing bodies demand from students evidence of having had a clinical training and a practical experience in midwifery so much less than what is required in the subjects of surgery and medicine? Is there not a risk that, owing to the introduction of so many new subjects in the medical curriculum, some of the older branches which lie at the foundation of practice, such as obstetrics, are being neglected?

2. Are we as careful (and this applies to both nurses and medical men) in carrying out the details of the antiseptic and aseptic methods in private practice as in maternity hospitals?

3. Is there not often too much meddlesome interference in obstetric practice?

Before venturing to make any practical suggestions for bringing the results of private midwifery practice more into line with what is now the rule in maternity hospitals, it may render this task easier if we first consider certain facts which throw a light upon the nature of puerperal infection.

1. In at least 75 per cent. of midwifery cases labour is a natural physiological process, occurring in such a manner that nothing more than a certain amount of care—expectant watchfulness—is required and no interference is needed.

2. A woman who delivers herself spontaneously and who has never been examined internally rarely has any signs of puerperal infection. Leopold was the first to show this when he pointed out that at the Dresden Lying-in Hospital of a series of 248 cases who were delivered without medical aid, who were neither examined, touched, nor syringed, 98 per cent. had no fever during the puerperium. Five only had febrile symptoms and they were slight. This observation has since been frequently confirmed by others.

3. Women who enter a lying-in hospital after delivery—that is, those confined on the way to the hospital—rarely suffer from puerperal infection because, through not having been examined internally, they have avoided the risks of having the germs which cause the disease conveyed to them. This fact has been observed frequently by those connected professionally with maternities.

4. The uterus and vagina in a pregnant woman who has not been examined internally contain no pathogenic organisms but, as has been demonstrated by Whitridge Williams of the Johns Hopkins University, they are present upon the inner surface of the labia and the margins of the hymen in at least 60 per cent. of pregnant women, and the mere introduction of a sterilised glass speculum two centimetres in diameter, which he points out is no larger than the two fingers employed for examination, carries micro-organisms into the vagina in at least one-half of such cases.

5. The results of midwifery practice become better the less vaginal examination and the more abdominal palpation is used.

6. Vaginal examinations during labour are always attended with risk and should never be employed unless to elicit information for the welfare of the patient which cannot otherwise be obtained by abdominal palpation. It must never be forgotten that a patient in labour who has not been examined internally is almost absolutely safe from the risks of puerperal infection.

7. Puerperal infection is due to the introduction of micro-organisms which may be found on the patient's vulva, her clothes, bed, instruments, and the hands and clothes of those who look after her; hence the importance of disinfection of the patient's vulva, of a clean bed and clothes, of disinfection of all instruments and of the hands of her attendants who should wear sterilised overalls or clean, freshly laundried towels pinned carefully so as to prevent their own clothes coming in contact with the patient. Care should be taken that in the case of an internal examination, the hands after being disinfected do not become fouled again by touching the bed, clothes, vulva, &c., before entering the vagina. In making a vaginal examination (the vulva having been previously washed with soap and water and rinsed with a corrosive sublimate lotion 1 in 1000) the disinfected thumb and forefinger of the left hand are used to hold open the vagina so that the fingers of the right hand, previously sterilised, pass direct from the basin of perchloride lotion into the parts without touching the inner surface of the labia or hymen. The same care and precautions should be taken in sterilising the hands in obstetric as in surgical work. These facts suggest certain precautions which must be observed if we are in private practice to prevent the occurrence of puerperal infection.

I. Nurses and students should be taught clearly the risks of vaginal examination and the great value and absolute safety of replacing this method by abdominal palpation. So far back as 1886 Credé wrote—"Even the simplest manipulation may cause infection. It should therfore be laid down and taught as a fundamental principle that internal examination of parturient women should be altogether avoided or restricted within the narrowest possible limits. It can be very well replaced by external examination. To instruct their pupils as thoroughly as possible in this method is the present and future duty of teaching institutions." Have we teachers done our duty in this respect? Is it not too often the case that reliance for diagnosis is placed on vaginal examination alone employed as a mere matter of routine to see how the labour is proceeding, while the danger involved in such a method is not fully realised. I can only say—as a personal contribution—that I was taught by others the vaginal method and that subsequently I taught myself the abdominal plan of examination and the more I use this latter method the greater I appreciate its value. The man or woman who employs this method will, I am confident (and such has been the experience with students in maternities), be more accurate in his or her diagnosis and will rely less and less on the vaginal route. In many confinements during the past few years I have not made a single vaginal examination, as the external plan gave all the information required, and the only thing one cannot yet be sure of is prolapse of the cord when the membranes rupture. If in a normal case an internal examination is to be made at all the best time is just after rupture of the membranes. I regret very much that in the "Directions to Midwives," framed by the Central Midwives Board, no reference at all is made to the importance of abdominal palpation, although candidates are required before being admitted to an examination (pages 8

[2] THE LANCET, June 18th (p. 1701) and 25th (p. 1772), and July 2nd (p. 4) and 9th (p. 64), 1904.

and 24, Rules of Central Midwives Board) to produce a certificate certifying that they have attended and watched the progress of not fewer than 20 labours, making abdominal and vaginal examinations during the course of the labour, and personally delivering the patient; and among "Duties to Patient," No. 8 (p. 15), "no more internal examinations should be made than are absolutely necessary" is ambiguous as it raises, without answering, the question, How many are absolutely necessary? and, by omitting any notice of the abdominal method, it tends to emphasise the fact that the vaginal examination is the only method to be employed. I now meet often at confinements nurses who are wonderfully skilful in abdominal palpation and personally I prefer to recommend to my patients midwives who make no vaginal examinations. Dr. R. D. Purefoy, whose term of office as Master of the Rotunda ended on Oct. 31st, 1903, and who very kindly supplied me with the statistics from that institution, writes me: "In most of the cases in the hospital *no* vaginal examination is made. In some *one* is made. Where necessary, of course, this is repeated." I am not prepared to deny that a woman who has never been examined at the time of her confinement may subsequently develop sepsis. I have seen such cases and Dr. Purefoy tells me that at the Rotunda "in some of the fatal septic cases no vaginal examination had been made before the trouble arose," but such cases are extremely uncommon and may be due (1) to the introduction of the gonococcus shortly before labour; (2) contact by the patient's fingers touching the genitals; (3) contact with dirty clothes or a dirty bed; and (4) Whitridge Williams's account of the bacteriology of the inner surface of the labia minora and hymen shows how easily a wound there in a natural labour might allow pathogenic organisms to enter. Still, admitting all this, the results of modern maternity hospitals show beyond question that vaginal examinations are the main source of puerperal infection.

II. Nurses and students should be taught more and more clearly the cause of puerperal infection—viz., that it is introduced from without, and also the importance of keeping themselves and the patient aseptic and how extremely easy it is for the disease to be introduced.

III. It should be clearly recognised that in at least 75 per cent. of the cases labour is a natural process not to be interfered with and that, as has been well stated by a recent writer (Edgar), "the whole process of labour, properly considered, is a conservative process, the tendency of which is to prevent sepsis, and it should be our aim not to thwart this process or supplant it by methods of art but to follow and aid it, interfering only, when, for one reason or another, the resources of nature prove inefficient." It was a well-known saying of the older school of obstetricians that "meddlesome midwifery is bad," and surely vaginal examinations unless when clearly indicated, the uncalled-for use of the forceps, early rupture of the membranes, douching unless in very special circumstances, and any interference with the third stage of labour (such as manual removal of the placenta) are all examples of meddlesome midwifery. When, however, interference is necessary during the course of labour the same precautions should be taken as regards patient, instruments, and our hands and arms as are now employed in abdominal operations. Attention has been drawn by several writers recently to the midwifery bag as being a "weak point in the obstetric defence of the woman in labour against the assaults of sepsis" (Ballantyne). I can recommend the following plan which I have used for the past five years with the best results. After the use of the forceps or any other instrument it is carefully washed with soap and water and a nail-brush, dried, and rolled up in a towel or paper and taken home without being replaced in the obstetric bag. It is subsequently sterilised at home by boiling, dried with a sterilised towel, and placed in a sterilised bag which is put in the large midwifery bag. When required at a confinement it is taken out of its own sterilised cover and placed in boiling water before being used.

There are three other precautions which are of considerable importance as preventing indirectly the occurrence of puerperal infection.

1. The careful general examination of pregnant women is important, so that at an early date we may detect a flaw in any of the organs (heart, kidneys, lungs), the knowledge of which may lead to the adoption of a judicious prophylactic treatment and so maintain the patient's strength and health and resisting power.

2. A few weeks before the expected date of the confinement—especially in a primipara—a careful abdominal examination should be made, so that we may learn the presentation and position of the fœtus, the amount of liquor amnii, and the presence or not of an abdominal tumour; and if there is the least suspicion of deformity the pelvic cavity should be measured.

3. The immediate repair of any laceration of the pelvic floor following delivery is a most important point in the prevention of puerperal infection.

Such, in brief, are the suggestions which, if fully and fairly carried out, would, I venture to hope, soon make a marked change in obstetric practice and bring the results of private midwifery work more into line with the brilliant records now achieved in properly conducted maternities.

Belfast.

NEPHRITIS IN INFANTILE SCURVY.

BY GEORGE F. STILL, M.A., M.D. CANTAB., F.R.C.P. LOND.,

ASSISTANT PHYSICIAN FOR DISEASES OF CHILDREN, KING'S COLLEGE HOSPITAL; ASSISTANT PHYSICIAN TO THE HOSPITAL FOR SICK CHILDREN, GREAT ORMOND-STREET.

THE occurrence of hæmaturia in infantile scurvy is now well recognised; it is also recognised that when hæmaturia is not present a trace of albumin in the urine may apparently represent a slighter degree of the same abnormal vascular or blood condition, whatever it may be, which determines the occurrence of hæmorrhage in scurvy. Both these abnormal characters of the urine are, I believe, much commoner than has been supposed; indeed, so far as my own observations go, it would seem to be the rule rather than the exception to find that the urine in any case of pronounced infantile scurvy contains either a trace of albumin or blood. But this hæmaturia is evidently simply part of the general hæmorrhagic tendency of scurvy; there is nothing whatever to suggest that it is due to a nephritis; the urine is not characteristic of renal inflammation, and when albumin is found without blood it is almost always so slight in amount that it certainly could not be accepted as *per se* evidence of nephritis. The term "hæmorrhagic nephritis" applied to these cases of simple hæmaturia in infantile scurvy seems to me a misnomer, even when, as in one recorded case,[1] "a single granular cast was found on two occasions." The two cases recorded here seem to be of interest as showing, so far as can be shown from clinical evidence alone, that infantile scurvy may produce not merely albuminuria or hæmaturia but actual nephritis.

CASE 1.—A girl, aged 11 months, had been wasting for two months. For eight months before the wasting began the infant had been fed on unsweetened condensed milk and for the last two months had been fed on fresh milk boiled and mixed with Allenbury Food No. 3. When seen by me (Feb. 10th, 1903) the infant was much wasted, the skin was sallow and very dry, the legs looked "puffy," especially over the feet, but there was no definite pitting on pressure. There was no tenderness of the limbs which were moved freely. There were two upper and two lower incisors present and the gums around these teeth were greatly swollen and deep violet-purple, a very typical example of the gum affection in infantile scurvy. The urine at this time was slightly red, showed many blood corpuscles, some leucocytes, and on boiling with acetic acid there was "a moderate cloud of albumin"; no casts were seen. On Feb. 19th, after eight days of treatment with potato cream, orange juice, unboiled milk, and raw meat juice, the gums had almost entirely lost the purple discolouration and were much less swollen and the infant was said to be "much brighter." No further specimen of the urine was obtained until the 20th; it was then no longer red and only a few blood corpuscles were found with the microscope; the amount of blood had greatly diminished. In spite of this diminution, however, the albumin had greatly increased and formed a flaky precipitate on boiling with acetic acid. Microscopic examination showed, without centrifuge, many tube-casts, granular, hyaline, and epithelial. Although

[1] Deutsche Medicinische Wochenschrift, May 5th, 1904, p. 705.

the scorbutic condition of the gums was so much improved and the infant's general condition decidedly better there was still considerable illness and the skin remained dry and harsh. There was no œdema now or at any time. On the 26th the urine still contained a large amount of albumin; with the microscope blood corpuscles were found with difficulty, the number of tube-casts was less, but hyaline and granular casts could still be found easily without centrifuge. The infant was now much better in every way. On March 4th the infant seemed quite recovered from the scurvy but there was still "a cloud of albumin" on boiling with acetic acid. From this date onwards no casts were found but a slight cloud of albumin persisted, and when the infant was last seen, 16 months after the scurvy, there was still a constant trace of albumin in the urine.

CASE 2.—A boy, aged eight months, had been fed on the Allenbury foods since the age of four weeks (except for a period of six weeks during which he had Benger's food made with cow's milk). The Allenbury foods had been continued until a fortnight previously when sterilised milk was given and a little raw meat juice. One month ago it was noticed that the feet and legs became tender and that he did not move his legs about. A fortnight ago his left eye suddenly showed swelling and redness of both lids which a few days later had the bruised appearance of "a black eye." Seen by me on April 28th the infant showed marked proptosis and outward displacement of the left eye. He cried piteously when the legs were moved. There was slight hæmorrhage in the gum behind the one lower incisor which was present. The child was pale and seemed ill. There was no general œdema. Treatment was begun at once with potato-cream, orange juice, &c. On May 3rd a specimen of urine was obtained and showed on boiling with acetic acid a flaky precipitate of albumin which was evidently much more than could be accounted for by the few blood corpuscles discovered by the microscope. There was a large number of casts, epithelial, granular, and hyaline, seen without centrifuge. On the 8th all the tenderness of the limbs had gone and the proptosis of the eye was much less. On the 20th a second specimen of urine obtained showed no blood but some albumin and still epithelial and granular casts, but not nearly so numerous as before, and only found with the centrifuge. On the 23rd the urine still showed a definite cloud of albumin on boiling with acetic acid but there were no casts. The infant now seemed quite well. On June 9th there was still a trace of albumin in the urine but no blood and no casts.

The difficulty of obtaining specimens of urine and the small amounts available in both these cases made the record of the urinary condition much less continuous and less complete than one could have desired; both the infants were treated at home and I am much indebted to the kindness of Dr. A. G. Jones of Harlesden in the one case and to Dr. R. M. Fraser of Ilford in the other case for opportunities of watching the course of the renal affection. Perhaps the most noteworthy feature in these two cases of nephritis with infantile scurvy was the latency of the nephritis. Apart from examination of the urine there was nothing to lead one even to suspect the presence of nephritis. This, of course, is not peculiar to nephritis with scurvy; it is noticeable in nephritis with various other conditions, for instance, I have recently had under my care a child, aged four and a half years, with pneumococcal empyema, whose urine was found quite unexpectedly to be very albuminous and to contain a very large number of granular and epithelial casts, although there was nothing in the child's appearance or in the symptoms to suggest any renal disease. The possibility of such latent nephritis makes routine examination of the urine desirable in all cases of infantile scurvy.

The relation of the hæmaturia to the nephritis in these cases is not very clear; the marked diminution of the hæmaturia which was present in the first case before any evidence of nephritis appeared in the urine rather suggests that the blood may have been due partly or entirely to the hæmorrhagic tendency of scurvy, not to the nephritis. The acute stage of the nephritis, as judged by the quantity of albumin and the presence of casts, was of short duration in both these cases; in the former casts had disappeared within 12 days after the onset of nephritis; in the latter they were absent 20 days after the renal affection was first noticed; but as might be expected the damage to the kidney is more lasting when this nephritis has occurred than in the common cases of simple hæmaturia or albuminuria with infantile scurvy. In both the present cases a trace of albumin persisted in the urine long after the infant had completely lost all symptoms of scurvy, in the latter for at least some weeks, in the former for at least 16 months.

The relation of the nephritis to the infantile scurvy must remain undetermined until we have more exact knowledge of the pathology of scurvy. At present any views on this point can only be speculative. It may perhaps be contended that the occurrence of nephritis in infantile scurvy points to the presence of some materies morbi rather than to a mere deficiency of some normal constituent in the blood—in other words, that it indicates a positive rather than a negative fault as the cause of infantile scurvy. Even on the assumption, however, that nephritis implies some such irritant it by no means necessarily follows that scurvy is due to a similar irritant, be it ptomaine, toxin, or micro-organism. The nephritis may equally well be secondary, due perhaps to toxic products of the disturbed metabolism in scurvy, which disturbance itself may be due—and in my opinion probably is due—solely to a negative fault—the absence of certain food-constituents from the diet. But it may not be necessary to assume any such irritant as the exciting cause of the nephritis. It has been pointed out by Sir Thomas Barlow that interstitial hæmorrhages are sometimes found in the kidneys in fatal cases of infantile scurvy and these, I would suggest, may entail a certain amount of inflammatory reaction which when the hæmorrhages are sufficiently numerous or extensive may produce the ordinary evidences of renal inflammation in the urine.

Harley-street, W.

"INTERRUPTED CIRCULATION" AS A THERAPEUTIC AGENT,

ILLUSTRATED IN TWO CASES OF RHEUMATOID ARTHRITIS.

BY WILLIAM EWART, M.D. CANTAB., F.R.C.P. LOND.,
SENIOR PHYSICIAN TO ST. GEORGE'S HOSPITAL AND TO THE BELGRAVE HOSPITAL FOR CHILDREN.

IMPROVED union of fractures was obtained by Hugh Owen Thomas (1876)[1] by "damming the circulation" above and below the lesion. This practice had previously been revived from Ambroise Paré[2] by v. Dumreicher[3] or perhaps rediscovered by him, as Paré's method did not include any compression below the lesion. These results and the good effects derived in various affections, including joint affections, by Professor August Bier (1894)[4] from a "continuous passive hyperæmia" induced by slight compression of the veins[5] above the part affected, taken side by side with the benefit secured in the following cases by working on an opposite principle, show that the same therapeutic ends may sometimes be attained by different means. All these observers used the tourniquet *to the veins only* (and therefore, most important to note though not mentioned, to the lymphatics also) with a view to increasing local nutrition by vascular overcharge. The principle of treatment to be described in this communication has an equally wide range of application to the various tissues, including the extravascular tissues, but its mechanism is an imitation not of an abnormal circulation, but of the healthy circulation with its afferent pressure-waves of nutrient blood and its efferent suctional stream of denutritive juices. Both these forces are artificially intensified by rapid alternations of capillary flushing and of capillary emptying. The tourniquet is applied intermittently (for periods of one half to two minutes, repeated several times at a sitting); and sufficient pressure is used to close *the arteries* after draining the limb by elevation and stroking.

Artificial anæmia, kept up for periods of five minutes, seems to have been the essential feature in the cure of a case of Raynaud's disease by the tourniquet reported

[1] The Principles of the Treatment of Fractures and Dislocations, p. 40. London: H. K. Lewis, 1886.
[2] Œuvres complètes d'Ambroise Paré. Édition Malgaigne, vol. ii., livre xiii., chapter xxx.
[3] Nicoladoni: V. Dumreicher's Methode zur Behandlung drohender Pseudarthrosen, Wiener Medicinische Wochenschrift, 1875, Nos. 5, 6, and 7.
[4] Hyperæmia als Heilmittel, pp. 30, 64, &c. Leipsic: F. C. W. Vogel, 1903.
[5] Bier (loc. cit., p. 16) was also one of the earliest advocates of "active hyperæmia" by the application of hot air, &c.; 1891.

by Harvey Cushing[6] from Osler's clinique. Cushing takes a neurological rather than a mechanical view of the action of the remedy, and says: "It depends seemingly in principle upon the physiological 'blocking' effect of the elastic constriction on the peripheral vasomotor nerves." The simpler view seems to be that the emptied arteries suddenly receive a ramming charge when the tourniquet is removed and that the internal surface of the capillaries and of the lymphatic spaces in which they are immersed is submitted to sudden stimulation; whilst, on the other hand, during the preceding stage of ischæmia a certain amount of suction must have existed within them not only owing to the collapse of the elastic tissues, but also from the intravascular negative pressure set up by the procedure. The tendency would be for the emptied blood-vessels to suck up some of the remaining tissue-lymph, or in cases of inflammation some of the more fluid inflammatory exudates. Of these two actions, that of the forcible arterial flushing and that of the suctional tissue drainage, it is hard to say which might be the more efficient therapeutic agent in affections of inaccessible tissues such as bone, bone marrow, articular cartilages, and synovial membranes. In rheumatoid arthritis, with its special features of immobilisation of the joints and of stagnation of the lymphatic circulation, they would both fulfil direct indications; and it has proved to be so in the cases to be narrated. But a variety of other tissues and of other conditions might be equally benefited, and in addition to any further observations in these wider fields of work I shall hope to hear of the larger experience of others.

The technique which was employed is exceedingly simple. A padded armlet of soft leather, or failing this a circular pad of lint and cotton-wool of sufficient thickness to protect the nerves, having been secured round the upper arm or the thigh, a loop of indiarubber tubing of suitable thickness is passed behind the limb over the pad, and the two ends of the loop are strongly put on the stretch with one hand. The other hand immediately grasps the tubes close up to the front of the limb, thus tightening the loop into a strong ligature or tourniquet. The degree of arterial occlusion depends upon the strength with which the two ends of the loop are pulled up, the limb having previously been drained of much venous blood by raising it and by stroking the larger veins empty. The compression has for its effect quickly to induce cutaneous blanching and numbness of the extremity, similar changes doubtless taking place through the thickness of the limb. For ordinary purposes half a minute or at most two minutes of this will suffice. The tube is then let go, and this is at once followed by a bright cutaneous flush of capillary injection and a pleasant feeling of warmth. The same manœuvre is then repeated, say six times, at intervals of a few seconds. Two or more such sittings may be used daily. The method is so simple that I have been able to intrust its application to my nurses. To them, as well as to my able house physicians, Mr. P. F. Tinne and Mr. P. A. Hayne, I am indebted for their most valuable assistance. In both the cases the results hitherto obtained have been most satisfactory; but their advanced articular and periarticular changes and the resulting articular stiffness cannot be got quite well short of a much more protracted course of treatment.

CASE 1.—This case was exhibited before the Harveian Society in May, 1904, when the method was demonstrated. The right wrist had been selected for treatment because it was so much worse than the left, more thickened, much more painful, and almost absolutely stiff. The first and each subsequent application gave great relief to the constant soreness and pain which entirely ceased after a few days. The swelling and synovial effusion also gradually lessened until they were less than in the left wrist, which, however, still remains the more mobile of the two. The patient, a girl, aged 17 years (Medical Register, No. 214), was admitted on Feb. 6th, 1904, into St. George's Hospital as a case of relapsing acute rheumatism. She had first been seized 11 weeks before and again after a short period of improvement two weeks prior to her admission. The ankles and knees had been slightly affected and the wrists permanently affected from the first. She was placed under the usual treatment by salicylate and iodide and milk diet; but the improvement was not satisfactory and the temperature continued to oscillate above normal until after three weeks she was made to lie out of bed and was given tonic treatment, abundant food, and some port wine, with passive movement and iodine applications to the wrists. Though the pyrexia gradually lessened there was much stiffness of the upper spine and the wrists made but slow progress. The treatment by "interrupted circulation" was first applied on April 26th with such good effect that on the 28th it was ordered to be used twice daily, with six turns of half a minute each at each sitting. It was then, and has continued to be, limited to the right wrist, in order to afford a basis for judgment. Whilst much of the improvement in the patient as regards appearance, strength, and weight (the weight has gone up from 6 stones 2 pounds to 7 stones 11 pounds) is to be ascribed to the general treatment adopted, the striking relative improvement which has occurred in the right wrist cannot be explained except in connexion with the special local treatment which it has received. It now presents hardly any soft swelling and the fluorescent screen shows a distinct view of the carpal bones previously blurred. This point having been clearly established the same treatment will henceforth be used for both wrists and there is a good prospect of their ultimate complete recovery.

CASE 2.—This was a case of chronic crippling osteo-synovitic rheumatoid arthritis of both wrists originating in a gonorrhœal attack 11 years ago, in a coachman, aged 39 years, who was admitted on May 3rd, 1904, into St. George's Hospital (Medical Register, No. 685). Both feet had been originally affected, disabling him for 12 months. He broke his right wrist two and a half years previously and a second attack of "rheumatism" about two years ago settled in the knees and in the hands. Since last December the hands had gradually become worse, but he kept on the box until two days before admission, when swelling of the right knee caused him to lie up. On admission he was found to be suffering from a gonorrhœal discharge, with synovitis of the knee, and with chronic changes and stiffness of both wrists, which were massively enlarged and also presented much baggy effusion. The usual forms of treatment were adopted, and in view of his gouty tendency he also was prescribed colchicum. The right knee got quite well soon after the cessation of the discharge, but with a return of the latter the left knee became acutely swollen and was cured by local treatment and by curing the urethritis. Meanwhile no improvement was perceptible in the wrists, and on May 24th the treatment by "interrupted circulation" was begun. The right wrist was selected for treatment because it was so much more swollen and much more rigid, partly in connexion with the old fracture. The treatment was well borne, produced no discomfort, but after two or three applications considerable alleviation of the aching and of the swelling. At the present time the right wrist is almost quite free from the synovial swellings which are still present in the other wrist (not treated by this method) and though still massive and misshapen it has regained a limited range of movement which is daily increasing under passive motion. The subacute effusion in the right knee was also treated with decided benefit by the same method and it was possible to verify in it by fine measurement the diminution in size brought about by separate applications. It is noteworthy that during the last few days the patient has spontaneously undertaken for himself and successfully carried out the application of the india-rubber tube tourniquet to his right arm. A continuance of this treatment and of the hot-water massage seems likely to bring about a return of considerable mobility in the crippled joints.

Remarks.—In both these cases the synovial and lymphatic effusions have appeared to me to have been benefited more largely than the peri-articular fibrosis, and this is consistent with the views expressed as to the probable mode of action of this method. But in the treatment of the stiffness of joints there is a definite help in the numbness which accompanies the stage of ischæmia and which allows, within prudence, an increased amount of passive motion to be applied. The method would therefore be specially promising in the early stages and in the exudative forms of rheumatoid arthritis, it being understood that it is merely an adjunct in our treatment, from which we cannot spare any other available resource whether local or constitutional.

Rheumatoid arthritis, however, as previously stated, is only one of many conditions, both medical and surgical, likely to be benefited by interrupted circulation. The following are instances from surgery. N. S. Isambert[7] has resorted to systematic applications of a constricting elastic band to produce "an artificial circulation" with the object

[6] Journal of Nervous and Mental Diseases, November, 1902

[7] Cf. Semaine Médicale, May 18th, 1904.

of preventing gangrene in a case of ligature of a wounded femoral artery. Another surgeon, L. Isnardi* of Turin, finds that the application of an Esmarch's bandage before changing the dressings of large wounds or burns obviates the distressing pain and bleeding otherwise avoidable. Other developments will doubtless follow in the department of medicine and in connexion with cutaneous affections. But it remains a problem whether, and in what form, the principle may be made available for other districts than those of the limbs. In conclusion, I gratefully trace to H. Cushing's paper the original impulse and to George Oliver's most instructive work much of the growth of this thinking.

Curzon-street, W.

AN EPIDEMIC OF ACUTE OPHTHALMIA.

BY SIMEON SNELL, F.R.C.S. EDIN.,

OPHTHALMIC SURGEON, ROYAL INFIRMARY, SHEFFIELD; PROFESSOR OF OPHTHALMOLOGY, UNIVERSITY COLLEGE, SHEFFIELD.

EPIDEMICS of ophthalmia attacking large numbers have at different times been recorded. These have often been connected with military establishments or other institutions where people have been congregated together. The disease in these epidemics has been trachoma or granular ophthalmia and the disastrous and far-reaching effects of this dire disease have been well exemplified in many such outbreaks. Other epidemics of less severity have also from time to time been recorded. In 1894[1] I related at some length particulars of an outbreak of ophthalmia in a good-class boarding school which affected large numbers and led to the temporary breaking up of the school. A well-known surgeon who was called in after I had first reported on the outbreak was of opinion that the disease was trachoma. The sequel, however, showed the correctness of my first opinion that it was a less serious disease and that it was more of the nature of that described by Fuchs and others as follicular conjunctivitis. Those interested in the subject of epidemic ophthalmia may find the account of this outbreak and the means adopted for its eradication worth perusal.

The outbreak now to be described is, so far as I am aware, a rare and unusual one both from the numbers affected and the character of the disease. It spread very rapidly and in such a way that admitted of no question of its contagiousness and quickly subsided when measures to combat it were adopted. Everyone seeing much of ophthalmic practice, especially among hospital patients, is accustomed to observe instances of muco-purulent or catarrhal ophthalmia and is aware also how highly contagious a disease it is. Not infrequently several members in a family will be afflicted. A case coming under observation leads to inquiry as to others being affected and to instructions being given for preventing the extension of the disease. It is very rare, however, for the affection to spread in a community to such numbers as was the case in the outbreak which I am about to describe.

On May 5th of the present year I received a communication from Dr. H. Peck, medical officer of health to the Chesterfield rural district sanitary authority, informing me that a serious outbreak of contagious ophthalmia had occurred at Staveley, one of the townships of his district, and desiring me to consult with him as to the nature of the epidemic and the steps to be taken to eradicate it. On the day following we accordingly met at Staveley. A large number of cases were gathered together in one of the schoolrooms for examination. Before, however, referring to these it will be well to give some particulars of the outbreak and of the sanitary aspects of the district. Staveley is a township with about 12,000 inhabitants and Dr. Peck informed me that the district was a very healthy one. The first case of ophthalmia occurred about three months before our visit and since that time others had appeared in the same district and later in other parts. Recently the number affected and the absentees thereby of children from school had rapidly increased. The sanitary inspector had, therefore, specially reported the matter to Dr. Peck on May 5th. Those mostly affected were children, but the epidemic implicated people of all ages, amongst whom was a female teacher. The Staveley elementary schools are national schools and the number of children attending them was given me as follows: boys, 328; girls, 240; and infants, 400. In addition, the Roman Catholic schools accommodated 180 children. There was no evidence of overcrowding in the schoolrooms and Dr. Peck, who frequently visited the schools, had no fault to find with the cubic space. The intercourse of the children occurred in the schoolrooms and playgrounds. There was a washing place in the boys' school but it was in a separate building. Any boy requiring to use it was obliged to obtain the key from the master and consequently not one a week applied for it. This arrangement, though open to objection on some grounds, for the purpose of our present inquiry excluded the propagation of the disease at the boys' school either by towels or washing basins. In the girls' school there was a washing place in the lobby and it was therefore more used. It has been mentioned that a large number of those afflicted were brought together for examination. These exemplified the characteristics of the epidemic and showed how widely spread it was. Altogether 24 families were represented. In many instances one or other of the parents attended with their children, in others the children came by themselves. The cases examined and the evidence ascertained as to other members of the same families disclosed a total of 68 afflicted, and practically the whole of these had occurred within the previous fortnight. Some interesting information was obtained as to the numbers affected in different families. Frequently one or other of the parents, usually the mother, had been affected as well as the children. In two families five children and the mother had suffered, in another six and the mother, whilst in one no less than ten children and the mother had been afflicted. The prevalence in other families was noted as follows: four children and the mother, three children and the mother, three children and the father, and three children alone.

The fact that the sanitary inspector, with the help of the schoolmaster and school attendance officer, was able at less than 24 hours' notice to collect this large number of afflicted families gave unmistakeable evidence of the widespread extent of the epidemic. It appeared an inside estimate to say that 200 persons must have been afflicted with the disease. Dr. Peck wrote me later to say that on the day following our examination he had come across nine additional cases attending other schools. The character of the disease was the same in all—muco-purulent or catarrhal ophthalmia. The cases examined were in various stages of the disease; some were very acute, with swollen eyelids and free discharge of flakes of muco-pus, whilst others had passed through this stage and the thick discharge had ceased. In no case was the cornea implicated. On the day following this examination, however, I saw a woman from the same district suffering from the disease. It was very acute in both eyes and the discharge was plentiful. The cornea in one eye was affected. Her recovery was, however, excellent. In all the cases both eyes, so far as I could learn, were affected. The Koch-Weeks bacillus was found with the microscope but attempts to obtain cultures failed. This failure with cultures, I understand, is not infrequent even when the bacillus is detected with the microscope. The specimens for examination were taken from the woman just referred to in whom the disease was in the acute stage and was typical of the outbreak.

The investigation at Staveley thus clearly established the nature of the disease, its extremely contagious character, and the widespread prevalence of the epidemic. It will have been noticed that the great bulk of those afflicted were children of school age. They were, whilst the disease was acute, physically unfit for school and had been usually kept at home by their parents. It did not appear therefore absolutely necessary for the present to close the schools and I reported to the sanitary authority that if other measures were at once adopted it was to be hoped that the epidemic would cease without resort to such a procedure. It was pointed out that many of the cases examined were in a very acutely contagious condition and all the others were more or less so and that it was necessary to recognise how very contagious the disease was. The smallest particle of the discharge reaching a healthy eye would speedily affect it. Many of the cases were fortunately making a good recovery but it was necessary to bear in mind that in others sight might be endangered and that therefore the need for treatment should not be forgotten.

The following suggestions were made: 1. That a notice should be issued by the medical officer of health setting forth the contagiousness of the disease and the necessity for separation, as much as possible, of the affected from the healthy

* Ibid., June 22nd, 1904.

[1] Brit. Med. Jour., Nov. 17th, 1894.

children. The importance should be urged of the use of separate towels, handkerchiefs, &c. Linen used for the children's eyes should be destroyed. Parents before and after giving attention to the children's eyes should be careful to wash their own hands. It was better for the children to wash with running water at the tap than from basins. The disease might be spread by others using the same water which one affected had previously used. 2. Any child suffering from the disease should be kept from school and not allowed to return until all discharge from the eyes had ceased. 3. The necessity for treatment should be pointed out to the parents and they should be advised to apply to a medical man as soon as the disease commenced. Speedy treatment would not only avert the disease and its danger but would also shorten its duration and tend to prevent the spread of it. 4. The importance of preventing the children using the towels in the schools was impressed upon the schoolmaster and this would doubtless be carried out.

With the greatest promptitude after our consultation Dr. Peck issued a printed notice which admirably expressed the salient points. It ran as follows:—

ACUTE CONTAGIOUS OPHTHALMIA.

This disease being prevalent in Staveley, parents and guardians are advised to take particular care that any one of their children who is affected shall not be allowed to use the same towel as other children.

The principal symptoms are, a dislike to look at light, redness of the eyes, and a discharge from the eyelids. Every case should be seen by a medical man, as there is danger of loss of sight. Children suffering from the complaint must not attend school.

(Signed) HERBERT PECK, M.D.
Medical Officer of Health.

These notices were posted in different parts of the district and distributed by means of the scholars of the seven schools within three miles of the affected area. The warning given to, and the distribution of 1500 of these handbills by, the scholars no doubt aided very materially in limiting the spread of the epidemic. A zone was formed beyond which it was thought the disease was not likely to extend. It is satisfactory to note that the means adopted were successful and that the epidemic was soon at an end. Fresh cases arose but with less frequency. On June 6th, a month after our visit, the schoolmaster wrote saying that the attendance officer had not heard of any fresh cases and that he himself had only noticed two cases recently. Dr. Peck informs me that he saw two cases on June 7th which were then subsiding. Since that date he has neither seen nor heard of any others. I feel that much is due to Dr. Peck for recognising the seriousness of the epidemic and for the promptitude with which he aided in the adoption of measures for its eradication.

Sheffield.

THE PREVALENCE OF CANCER AND ITS INCREASE.

BY W. ROGER WILLIAMS, F.R.C.S. ENG.

IT is stated that as the result of its investigation into this matter the Imperial Cancer Research Fund has come to the conclusion that the data upon which the mortality statistics are based indicate that there has been no real increase of cancer. As I believe this conclusion is entirely erroneous I now propose to challenge it with a direct negative and in support of this position I beg to submit the following evidence which, after weighing the subject in all its bearings, seems to me to be absolutely conclusive.

PRELIMINARY REVIEW.

In the course of organic evolution some types of disease—like species—have diminished and become extinct, while others have increased and become more prevalent. In comparatively recent times plague, typhus fever, leprosy, malaria, scurvy, and dysentery have almost or quite disappeared from our country; small-pox and other zymotic diseases have greatly diminished; while phthisis and other tuberculous affections are decidedly on the wane. On the other hand, a small group of maladies, of which cancer is the chief, have steadily increased, and this in spite of progressive diminution in the general death-rate. Of the other members of this group insanity, suicide, alcoholism, and diabetes are the chief; while to these may be added diseases of the circulatory system, premature births, and congenital deformities. Coincidently with these changes the population has slowly increased, having hardly doubled in 65 years. During the period from 1840–1901 the cancer mortality has increased nearly five-fold—viz., from 177 per 1,000,000 living to 842. In all modern civilised communities a similar tendency is noticeable, especially as regards cancer, the incidence of the malady doubling in frequency in periods of from 20 to 30 years. This tendency seems to be of comparatively recent origin. At any rate, cancer is a disease of great antiquity and is known to have existed from the most remote times of which we have any record. The "Papyrus Ebers," which is believed to have been written about 1550 B.C., contains a short section on malignant and other tumours, from which it may be inferred that the cardinal features of these maladies were then well recognised. In the works of Hippocrates—who is supposed to have flourished during the latter part of the fifth century B.C.—malignant and other tumours are referred to. In the somewhat detailed enumeration of the various maladies prone to occur at the different periods of life which is embodied in the "Aphorisms" no mention is, however, made of cancer. From this omission and from the comparative paucity of the references to cancer in the Hippocratic writings I conclude that this affection must then have been comparatively rare. We have but little trustworthy information as to the prevalence of cancer in England during the Middle Ages and at earlier periods, yet it is probable that it was then of much less frequent occurrence than in recent times. The exceptionally well-kept registers of Market Deeping (Lincolnshire) during the years 1711 to 1723, in a total of 387 deaths, show only two from cancer (one male and one female).

STATISTICAL SUMMARY.

In the very earliest years of registration, before the enumerating machinery had been perfected, the data elicited may have left something to be desired. We will therefore commence our study with the year 1840 when the national statistics, under the able guidance of William Farr, had already acquired well-deserved reputation for reliability. In that year 2786 persons died from malignant disease in England and Wales, the proportion being 1 in 5646 of the total population, 1 in 129 of the total mortality, or 177 per 1,000,000 living. In 1901 the deaths due to this cause numbered 27,487 being 1 in 1186 of the total population, 1 in 20 of the total mortality, or 842 per 1,000,000 living. In this respect the position occupied by malignant disease is unique, for no other malady can show such a great increase. Whatever the etiological factors of cancer may be it is thus evident that they are not constant in action and if capable of exacerbation in some circumstances they may be amenable to diminution in others. In further illustration of this subject I have compiled the following table which shows the decennial increments of increase during the long succession of years.

Year.	Total population.	Total deaths.	Cancer deaths.	Cancer death-rate per 1,000,000 living.	Proportion to population.	Proportion to total deaths.
1840	15,730,813	359,687	2,786	177	1 to 5646	1 to 129
1850	17,773,324	368,995	4,966	279	1 ,, 3579	1 ,, 74
1860	19,902,713	422,721	6,827	343	1 ,, 2915	1 ,, 62
1870	22,501,316	515,329	9,530	424	1 ,, 2361	1 ,, 54
1880	25,714,288	528,624	13,210	502	1 ,, 1946	1 ,, 40
1890	28,762,287	562,248	19,433	676	1 ,, 1480	1 ,, 28
1900	32,261,013	587,830	26,731	828	1 ,, 1207	1 ,, 22

THE REALITY OF THE INCREASE.

With these figures before us, and all that they imply, there can be no doubt as to the reality of the increase in the cancer mortality. Yet this has been called in question. The earliest objectors ascribed the registered augmentation to mere increase of population; but the futility of this quibble is demonstrated by the fact that while the population has barely doubled (1850–1900) the cancer mortality has trebled. Next, the attempt was made to explain the increase as due to the average age of the population having advanced and the consequent liability of greater numbers. To this the answer is, that the saving life in modern times has mainly been confined to the pre-cancerous years of existence, the death-rates of males over 35 and of females over 45 having remained almost stationary, while the numbers attaining old age has decreased. Hence, only an infinitesimal fraction of the increased cancer mortality can

be thus accounted for. Moreover, an increase in the cancer mortality is by no means a necessary corollary of the survival of augmented numbers to the cancer age, as the Irish mortality statistics show. Another objection to the reality of the increase in cancer has been raised by Dr. A. Newsholme and his followers. They maintain that the registered increase is only apparent, being due to improved diagnosis and more careful death certification. There is, however, far too much uniformity in the steadily progressive increments of increase during the long succession of years to furnish any warrant for such a suggestion, while taken in its entirety the increase is so enormous as to make this explanation seem quite far-fetched. Moreover, if improved diagnosis and death certification have caused additions to the cancer total—which I do not deny—these same conditions have also caused subtractions from it. Thus, as the Registrar-General tells us in his fifty-fifth report, even up to the year 1880 such common diseases as "fibroid tumour," "polypus," and "lupus" were usually classed as cancer. In like manner many other morbid states formerly often regarded as cancerous are now relegated to other categories. It is hardly likely then that there is any validity in Dr. Newsholme's contention which, as I will now proceed to show, is—in its main contention—a statistical sophism, based upon fallacious figures as well as upon fallacious reasoning.

It is claimed that there has been no increase in the registered cancer mortality for those parts of the body in which the disease is readily "accessible" and therefore presumably easy of diagnosis, such as the uterus, the mamma, the tongue, the mouth, &c., whereas in "inaccessible" localities, such as the stomach, the liver, and the intestines, where diagnosis is presumed to be difficult, the increase is very marked. It is maintained that the greater increase of the male as compared with the female mortality may thus be accounted for, owing to the incidence of the disease in men being of preponderant frequency in so-called "inaccessible" localities. In support of this hypothesis reference is made to some data derived from the Scottish Widows' Life Assurance Society and to mortality statistics of Frankfort, but, as Dr. J. F. Payne[1] has pointed out, these seem to be a very inadequate basis on which to raise such a superstructure. Before accepting any such conclusion we must inquire whether similar results are arrived at in larger populations and under more representative conditions. In the report of the Registrar-General for 1889 a table is given with the object of determining this very question by analysing a certain representative selection of the deaths from cancer during the years 1868 and 1888 respectively. The results thus obtained with regard to localisation may be epitomised as follows:—

MALES.

Per 100 deaths from malignant disease.

	1868.	1888.
Stomach	35·3	24·0
Liver	12·0	14·9
Tongue and mouth	8·0	7·2
Rectum	7·3	8·9
Face	6·3	3·2
Intestine (ex rectum)	4·0	6·6
Pharynx, tonsil, &c.	2·5	1·9
Lip	2·2	2·0
Bladder	2·1	3·1
Extremities (upper and lower)	2·1	2·0
Penis, testis, and scrotum	2·0	1·6
Jaws	1·7	2·9
Œsophagus	1·6	4·9
Abdomen	1·5	2·7
Prostate	0·6	*Nil*
Mamma	0·2	0·2
	90·1	86·1
All others	9·9	13·9
	100·0	100·0

FEMALES.

Per 100 deaths from malignant disease.

	1868.	1888.
Uterus	38·0	31·4
Mamma	24·2	18·3
Stomach	11·9	11·9
Liver and gall-bladder	6·4	12·7
Rectum	3·7	4·8
Intestine (ex rectum)	2·1	5·3
Abdomen	1·7	2·8
Tongue and mouth	1·5	0·7
Face	1·5	1·2
Pharynx and tonsil	1·0	0·7
Extremities (upper and lower)	1·0	0·6
Œsophagus	0·7	1·3
Jaws	0·7	0·6
Bladder	0·6	0·8
	95·0	93·1
All others	5·0	6·9
	100·0	100·0

[1] THE LANCET, Sept. 18th, 1893, p. 768.

The net result of this inquiry was to show that the increase of the disease had not been confined to one or to some few parts of the body but that it had involved them all. It is specially noticeable that cancer of the stomach, the chief representative of the "inaccessible" group, shows less relative augmentation, especially in males, than any other local variety of the disease; and—in both sexes—the death-rates from this form of cancer show less increase than those for cancer in general. Thus, in 1868 the death-rate for cancer of the stomach per 1,000,000 living, 35 years old and upwards, was—for males 283·65 and for females 193·45, whereas in 1888 the figures were—for males 346·15 and for females 277·75. Thus, the increase for males in the 20 years was 22 per cent. and for females 44 per cent., but during the same period the death-rate for cancer in general increased 50 per cent. So far, therefore, as this analysis goes Dr. Newsholme's postulates are shown to be untenable. Since the year 1897 Dr. J. F. W. Tatham has introduced into the Registrar-General's annual reports a table showing the localisation of the disease for each year. Analysis of these tables for the years 1897 and 1900 respectively gives the following results:—

MALES.

Per 100 deaths from malignant disease.

	1897.	1900.
Stomach	20·6	20·5
Liver	14·2	13·9
Rectum	8·6	9·0
Tongue and mouth	6·3	6·8
Intestine (ex rectum)	6·3	7·0
Œsophagus	5·7	5·4
Bladder	3·3	2·8
Jaws	3·0	2·3
Neck	2·7	2·3
Pharynx, tonsils, &c.	2·3	2·2
Larynx and trachea	1·8	2·0
Testis and penis	1·5	1·5
	76·3	75·7
All others	23·7	24·3
	100·0	100·0

FEMALES.

Per 100 deaths from malignant disease.

	1897.	1900.
Uterus	23·5	22·5
Breast	15·5	15·8
Stomach	11·3	13·8
Liver	13·2	14·3
Rectum	5·2	5·2
Intestine (ex rectum)	5·2	5·7
Ovary	1·7	1·7
Œsophagus	1·4	1·3
Tongue and mouth	1·3	0·6
Bladder	0·8	0·9
Jaws	0·6	0·6
Neck	0·6	0·5
	82·3	82·9
All others	17·7	17·1
	100·0	100·0

The general tenour of the results manifested in this table accords with that shown in the preceding one. The proportionate localisation ratios show that there has been no special increase in the "inaccessible" manifestations of the disease; and this is specially noticeable in such organs as the stomach and liver, which comprise the great majority of this form of the disease. Here again, then, Dr. Newsholme's hypothesis is shown to be devoid of solid foundation. Further confutation of this hypothesis comes from the work of Dr. Claud Muirhead, the medical officer of the Scottish Widows' Life Assurance Society,[2] who finds that the cancer death-rate among the assured males was nearly twice as great in 1881–90 as it was in 1861–70. In a society of this kind, the members of which can command the services of highly skilled medical men, it is hardly likely that such a great increase could be due to improved diagnosis and death certification, especially as every death where there was a suspicion of cancer, was carefully investigated. "I think it is evident," says Dr. Muirhead, "that the theory that this large increase was wholly, or even largely, caused by sudden increase of diagnostic skill among the class of medical men who certify causes of death to this Society, is untenable." This contention is fully endorsed by an examination of the localisation ratios in 512 fatal cases in which the exact site of the disease was specified. From this it appears that the deaths from malignant disease of "inaccessible" parts (stomach, liver, &c.) *decreased* by 7·70 per cent. from 1874–80 to 1888–94, and the results thus obtained by comparing the percentages of actual deaths were entirely in accord with those arrived at by comparing the respective death-rates. Thus the reality of the increase of the disease among the members of this society was clearly demonstrated.

[2] The Causes of Death among the Assured in the Scottish Widows' Life Assurance Society, p. 13. Edinburgh, 1902.

Another consideration of similar import is that the increased cancer mortality has been diffused all over the country instead of being limited to certain areas only, so that those localities which formerly had the highest, lowest, and average cancer death-rates still preserve their distinction in this respect, although the cancer mortality has everywhere augmented. Taking all these facts into consideration there can, then, be no doubt as to the reality of the increase in the cancer mortality.

THE DISPROPORTIONATE INCREASE AMONG MEN.

The Registrar-General's annual reports show that more women die from malignant disease than men and this has been the case ever since these reports were first issued (1837). In the year 1900 this disease was fatal to 16,246 females and to 10,475 males; for females the death-rate was 975 per 1,000,000 living of that sex and for males 672. In other words, 1 in 15 of all men and 1 in 9 of all women 35 years old and upwards eventually died of cancer. The cancer mortality among males in that year exceeded the decennial average for the male sex by 16 per cent. and among females by 10 per cent. Attention is thus drawn to the remarkable fact that the increasing cancer mortality is affecting, and for many years has affected, males to a much greater extent than females. The difference between the sexes in respect to their proclivity to malignant disease has thus been steadily diminishing ever since 1850, as is shown by the following table:—

Table showing the Relative Increase of Malignant Disease among Males and Females.

Period.	Male cancer death-rate.	Female cancer death-rate.	Sex ratio.
1851 to 1860... ...	195	434	1 to 2·2
1861 ,, 1870... ...	244	523	1 ,, 2·1
1871 ,, 1880... ...	315	622	1 ,, 1·9
1881 ,, 1890... ...	430	739	1 ,, 1·7
1891 ,, 1900... ...	597	903	1 ,, 1·5

It thus appears that although there has been a great increase of malignant disease in both sexes during the last half century and although at the present time more women are affected than men yet the malady has augmented much more rapidly among the latter (206 per cent.) than among the former (108 per cent.). Moreover, it is noticeable that the average age of English women is higher than that of men, so that the death-rates as given above are unduly favourable to the female sex. It seems likely if this disproportionate increase of cancer among males be not checked that the disease will soon be as prevalent among men as among women or the comparative proclivity of the sexes in this respect may be reversed, as has already happened in a few countries. The greater prevalence of malignant disease among women is entirely due to the frequency with which, in them, the mammæ and uterus are affected, the corresponding structures in males very rarely originating the disease, while in all other localities the male liability is the greater. Here it may be noted that the comparative proclivity of women to non-malignant tumours and cysts is even more considerable than it is to cancer, and this also arises from the fact that in them the reproductive organs, especially the uterus and ovaries, very frequently originate tumours of this kind, whereas the corresponding male organs are seldom affected. Another point worthy of notice in this connexion is that for both sexes the percentage of cancer deaths at ages above 45 is greater than it used to be, the disproportionate increase in the male cancer mortality being mainly due to excessive incidence of the disease at comparatively advanced ages.

If, now, we ask what is the cause of this disproportionate increase of cancer among men? Newsholme, De Bovis, and others reply: There has been no real increase, but the apparent augmentation is due to improved diagnosis and death certification, owing to the majority of cancers in men being of the "inaccessible" variety, which is difficult to discriminate. As I have in the foregoing remarks fully exposed the fallaciousness of this hypothesis I need not further revert to the matter here.

It seems to me probable that this undue incidence of the increasing cancer mortality in men may be ascribed to the fact that of late, as the result of urbanisation, the conditions of life for men have come to resemble more closely those for women than heretofore. It is undeniable that urbanisation has affected far more profoundly the natural life of men—altering, modifying, and suppressing their ancestral habits, than it has the natural life of women. Out of these conditions, which comprise more domesticated surroundings, want of proper exercise and excess of food I believe the present increased cancer mortality has sprung.

Clifton, Bristol.

PARALYSIS FROM LESION OF THE UPPER PART OF THE BRACHIAL PLEXUS.

BY R. T. WILLIAMSON, M.D., F.R.C.P. LOND.,
PHYSICIAN TO ANCOATS HOSPITAL AND ASSISTANT PHYSICIAN TO THE ROYAL INFIRMARY, MANCHESTER.

Two forms of combined paralysis of muscles of the arm from lesions of the nerve roots of the brachial plexus are well known. In one form, Erb's paralysis (or the upper arm form), the muscles paralysed are the deltoid, biceps, brachialis anticus, and supinator longus; sometimes also the supinator brevis, the infraspinatus, and the subscapularis. In the other well-known form, the lower arm form (or Klumpke's paralysis), the muscles paralysed are the small muscles of the hand and the flexors of the fingers and wrist. The two cases here recorded are examples of a third form of paralysis of arm muscles in which there is paralysis of all the muscles affected in Erb's paralysis and, in addition, of the triceps and of the extensor muscles of the wrist and fingers. The following is a brief abstract of the notes of these cases.

CASE 1.—A woman, aged 50 years, was knocked down by a bicycle whilst walking in the street. In the fall the right shoulder came in contact with the ground. About five or ten minutes afterwards she noticed loss of power in the right arm. When first seen, four days after the accident, the following muscles were paralysed in the right arm: the deltoid, biceps, brachialis anticus, supinator longus, triceps, and extensors of the wrist and fingers. The flexors of the fingers and wrist and the small muscles of the hand were unaffected. The pectorals and the trapezius and the latissimus dorsi contracted quite well. There was difficulty in rotating the humerus outwards and in writing (especially towards the end of the line). Probably the infraspinatus was also paralysed. Sensation was carefully examined but no change to any form of sensibility could be detected either in the sensory distribution of the fifth, sixth, and seventh cervical nerve roots or in any other part of the arm. Electrical examination a few days later showed that the complete reaction of degeneration was absent in the affected muscles. The direct application of the weak faradic current to the paralysed muscles (deltoid, biceps, supinator longus, triceps, and extensors of the fingers and wrist) caused marked contraction in all, but the contraction was not so powerful as in these muscles on the left side. To galvanism (direct application to the muscles) all the muscles just mentioned contracted fairly well and the contractions were sharp as in the normal condition—"normal lightning contraction." Also the K.C.C. was greater than A.C.C. Indirect stimulation of the right deltoid, biceps, and supinator longus through application of the weak faradic current to the combined fifth and sixth cervical nerve roots at Erb's point in the posterior triangle of the neck caused a well-marked contraction of the muscles. Galvanic stimulation of the same nerve roots caused contraction of the muscles just mentioned and the K.C.C. was greater than A.C.C. Four weeks after the accident the deltoid and supinator longus were still completely paralysed; on attempting voluntary movements the biceps, triceps, and the extensors of the fingers and wrist contracted slightly but the loss of power in these muscles was still very marked. Seven weeks after the accident there was marked improvement. In course of time complete recovery occurred. There was no swelling or tenderness in the posterior triangle of the neck and there were no other symptoms of lesion of the nervous system. Treatment was as follows: galvanism (stabile method) was commenced three weeks after the onset of the paralysis. There was a daily application of the current for ten minutes.

CASE 2.—The patient was a boy, aged one year and eight months. One month before attending the hospital the child

was suddenly lifted up by the left arm from the floor. A few minutes afterwards there was pain in the left arm and a few days later it was noticed that the left arm was helpless. On examination the following muscles of the left arm were found to be paralysed completely: the deltoid, biceps, brachialis anticus, supinator longus, triceps, and the extensors of the wrist and fingers. The flexors of the wrist and fingers and the small muscles of the hand were unaffected. There did not appear to be any affection of sensation but owing to the early age of the patient and to his restlessness it was not possible to test sensation very accurately or to take the electrical reactions. Five months later when again examined the paralysis was unaltered. Electrical treatment had been recommended but the mother had brought the child for treatment on one occasion only.

In Erb's paralysis the lesion affects the nerve trunk formed by the union of the fifth and sixth cervical nerve roots (the "upper trunk" of the brachial plexus). In Klumpke's paralysis the lesion affects the eighth cervical and first dorsal nerve roots or the nerve trunk formed by their union ("lower trunk"). In the form of paralysis presented by the two cases just described the same muscles were paralysed as in Erb's paralysis—viz., the deltoid, biceps, brachialis anticus, and supinator longus—but in addition there was paralysis of the triceps and the extensors of the wrist and fingers. By many writers on spinal localisation the triceps and the extensors of the wrist and fingers are stated to be supplied by the seventh cervical nerve root.[1] If this localisation of motor functions be correct the paralysis in the two cases here described could be explained by a lesion affecting either the upper *cord* of the brachial plexus formed by the union of the fifth, sixth, and seventh cervical nerve roots or all those nerve roots separately before their union. The causation of the paralysis is probably similar to that in many cases of Erb's paralysis: compression or laceration of the nerve cord or roots between the clavicle and the posterior part of the first rib, owing to the clavicle being pushed or drawn suddenly upwards and backward at the time when the accident occurred.[2]

Manchester.

A CASE OF ANTERIOR DISLOCATION OF THE SEMILUNAR BONE OF THE WRIST.

BY ERNEST W. HEY GROVES, M.D., B.Sc. LOND.,
ASSISTANT SURGEON TO THE BRISTOL GENERAL HOSPITAL.

CASES in which single bones of the carpus become dislocated are sufficiently rare to justify the publication of the following.

A muscular man, aged 26 years, fell off a ladder whilst gathering walnuts and alighted on the ground, a distance of about 15 feet, striking his right hand and right hip. He thought that he fell on the outstretched palm of the hand. He was sent by Mr. W. Monckton of Portishead to the Bristol General Hospital where I saw him about 20 hours after the accident. The right wrist-joint was swollen and very painful but there was no marked deformity. Both styloid processes were felt in their normal relations. In front of the wrist at the level of the radial styloid process a prominent bony projection could easily be felt. On manipulation no crepitus occurred. Considerable traction could be made on the hand without much pain, showing that there was no injury of the lateral ligaments or fibro-cartilage. Pronation could be carried out but supernation was painful. Flexion of the wrist or fingers was impossible without great pain. Careful measurements from the most prominent points of the styloid processes of the radius and ulnar to the first and fifth metacarpo-phalangeal joint respectively gave about 0·5 centimetre shortening on the affected side. Viewed by the x rays the carpus was seen to be shortened and the proximal row of bones threw an indistinct shadow when viewed from in front or behind. The radius and ulnar were quite normal. When seen from the radial side a projecting shadow of a square bone was cast just in front of the lower end of the radius. Under ether the above points could be made out more distinctly and also the fact that a soft recess occurred just below the line of the wrist-joint on the dorsum and it was evident that the injury consisted in an anterior dislocation of the semilunar bone. Strong traction was made on the hand and the displaced bone was firmly pressed backwards. After one or two ineffectual attempts, the bone slipped back and the hollow on the dorsum of the wrist at once disappeared.

In the rare event of a single carpal bone being dislocated, the dislocation is almost always backwards and affects the os magnum. This is probably due to the fact that the os magnum occupies a central position in the carpus and is wedge-shaped with the base of the wedge on the dorsum. The semilunar is also rather wedge-shaped, but the base of the wedge is towards the palmar aspect and therefore it is that when a violent blow on the wrist crowds together the carpal bones and displaces the semilunar, this bone is forced forwards. Nevertheless, I cannot find any record of the anterior displacement of a single carpal bone and therefore I thought the above case was worthy of record.

Clifton.

[1] Sir V. A. H. Horsley: Article on Diseases of the Vertebral Column, Tumours, and Compression Palsies, Professor Clifford Allbutt's "System of Medicine," vol. vi., 1899. Dr. C. E. Beevor: Diseases of the Nervous System, 1898.

[2] R. T. Williamson: Cases of Paralysis of Muscles of the Upper Extremity of Peripheral Origin, with special Reference to their Causation, THE LANCET, Dec. 11th, 1897, p. 1522.

A CASE OF SLOUGHING PANCREAS; DEATH FROM SECONDARY HÆMORRHAGE.

BY W. H. BROWN, F.R.C.S. IREL.,
HONORARY SURGEON TO THE LEEDS INFIRMARY.

THE patient, a man, aged 52 years, was quite well up to November last when he had an attack of violent pain at the epigastrium followed by vomiting. A day or two later he became jaundiced and remained so for about six weeks. He had never felt quite well since his first attack of pain and had lost four stones in weight. His present condition was as follows. He looked ill and worn, there was a large fluctuating swelling at the left side of the epigastrium, and he complained of great pain when any pressure was made on the tumour. He also complained of acute pain over the spine of the left scapula. The swelling had not been noticed prior to my seeing him. After consultation with Dr. T. Churton it was decided that an operation was urgently needed.

On the next day under ether I cut down upon the swelling and found it to be a cyst in connexion with the pancreas. About three pints of fluid escaped. The cyst came forward over the upper border of the stomach, not between the stomach and the colon. A large rubber drainage tube was inserted. The fluid was found to contain pancreatic secretion. Dr. P. J. Cammidge's tests were made for me by Dr. O. C. Gruner and suggested malignant disease. The urine tested *before* the operation contained neither sugar nor albumin. The patient made good progress for ten days, the pain all went, and about 12 ounces of fluid were drained off each day. On the tenth day the tube came out and could not be replaced, the temperature ran up to 105° F., and a hæmorrhage took place which exhausted the patient rapidly. Transfusion of saline solution failed to revive him and he sank within 12 hours of the hæmorrhage. I was enabled to obtain the parts immediately concerned but not to make a post-mortem examination as usually understood.

On introducing the hand the viscera in the upper zone of the abdomen were matted together and adherent to the abdominal wall. There was an opening about three-quarters of an inch in diameter through the lesser omentum and the lesser sac was occupied by non-offensive, dirty-brown material, together with recent blood clot. There was a large quantity of free blood in the peritoneal cavity. The stomach, duodenum, and pancreas were removed *en masse* for further examination. On turning the attention to the pancreas that organ was found to be replaced for the most part by soft, black, necrotic-looking tissue. There was no healthy pancreatic tissue left. The extreme tail of the organ was least affected and the nature of the tissue here could be quickly recognised, but even this was considerably decayed. The lesser sac was occupied by soft brown débris, evidently of pancreatic origin. On the great

omentum and on the mesentery were several light yellow and white areas of fat necrosis. The spleen was very large and its substance was soft; otherwise it was normal. The liver and bile passages were normal; there were no gall-stones.

This is the third case of pancreatic cyst upon which I have operated; the former two were traumatic and recovered. The points of importance appear to be the obscure origin of the disease, the rapid loss of flesh that took place without the presence of malignant disease, and the intensity of the pain over the shoulder which entirely disappeared when the patient came round from ether. It is an interesting fact that the tests of Dr. Cammidge carried out by an expert resulted in a refutation of the statement that with certain reaction new growth will be found. I have thrice before met with cases in which profuse hæmorrhage occurred without obvious cause and in each case there was evidence of inflammatory changes in the pancreas.

Leeds.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Proœmium.

WESTMINSTER HOSPITAL.

A CASE OF ULCERATIVE COLITIS.

(Under the care of Dr. W. MURRELL.)

A MAN, aged 64 years, was admitted into Westminster Hospital on May 28th, suffering from ulcerative colitis. He was born in England, his father was an Englishman and his mother a native of Calcutta. When a few months old he was taken to India and remained there until the age of 36 years when he returned home. Whilst in India his health was perfect and he had neither diarrhœa nor dysentery. About ten years ago he developed a chronic and intermittent diarrhœa which during the past 12 months had been accentuated, the bowels as a rule acting four times in the day and five times at night. He had attended as an out-patient for nearly a year, but the diarrhœa continued with unabated severity in spite of much treatment. He had been steadily losing flesh and strength for some months. There were no cough and no night-sweating.

On admission and for some days subsequently the temperature was elevated, varying from 99·4° to 101·8° F. There were usually from five to seven motions in the 24 hours, the stools being fluid, fairly copious, slimy, free from blood, and not offensive. There was no vomiting. There was hyperæsthesia on deep palpation all over the abdomen. The tongue was clean and moist.

The patient was dieted and given acetate of lead and other astringents but without benefit and his general condition was unsatisfactory. From June 5th to 9th inclusive he had 23 motions. On the 10th, after a preliminary enema of boric acid, eight grains to the pint, he was given by means of an irrigation tube of small diameter a rectal injection of a 1 per cent. aqueous solution of argyrol at a temperature of 80°. When about five pints had been introduced, the patient being in the knee and elbow position, attention was called to the fact that a claret-coloured odourless fluid was pouring out of his mouth, a fluid identical in colour and appearance with that in process of injection into the rectum. The time from the commencement of the injection was four minutes. There was some nausea but no retching or vomiting and the fluid as it flowed from the mouth was received into a clean white porringer. A suggestion being made that it was altered blood it was examined both microscopically and by the usual tests but no blood was present. It was examined for bile and again with a negative result. The patient had taken nothing in the way of food but some tea early in the morning and subsequently a little milk and bread-and-butter. The specimen was then sent to Dr. Wilson Hake at the Westminster Hospital Medical School who, after complete analysis, reported that it was a solution of silver not differing apparently from a 1 per cent. argyrol solution with which it was compared.

The patient seemed none the worse for the injection and had a fairly good dinner. On the following day he had only three motions and on June 12th the same number. The temperature was normal on the 11th but on the 12th it rose to 102·4°, falling again in a few hours to normal. From this time there was no return of the diarrhœa, the bowels never being opened more than once a day. As a matter of precaution the injection was repeated on the 14th and 16th but there was no repetition of the regurgitation of fluid from the mouth. In a few days the patient was able to take meat, potatoes, and green vegetables; he rapidly regained weight and on July 6th was discharged well.

Remarks by Dr. MURRELL.—The foregoing case illustrates (1) the curative effect of an injection of argyrol into the bowel in a case of ulcerative colitis; and (2) the fact that a fluid introduced into the rectum may be discharged unaltered by the mouth. This case should be read in conjunction with the five cases of ulcerative colitis published in THE LANCET of March 12th, 1904, four of which terminated fatally. It was there stated that, with the exception of injections of silver, almost every drug or combination of drugs had been tried and that they all failed. It would be unwise to jump at a conclusion from the experience of a single case, but it looks as if argyrol had solved the difficulty. This salt is a chemical combination of silver with synthetic vitellin and contains 30 per cent. of silver. The evacuation of a substance injected into the rectum in so short a period as four minutes is noteworthy. There is no doubt about the fact, for the fluid was seen running out of the mouth, and Dr. Wilson Hake's careful analysis is conclusive. It may be suggested that there was a short circuit between the rectum and the stomach but there was nothing pointing to the existence of so abnormal a condition. The occasional vomiting of enemata by hysterical and other patients is not unknown and many cases are recorded.

Many years ago Nothnagel reported as the result of a series of experiments that anti-peristalsis never occurred in the normal uninjured intestine if no pathological influences were brought to bear on it. The effect was investigated of the injection into the rectum of various fluids coloured with carmine, post-mortem examination showing whether they had been carried higher by any movement of the intestine itself. The best results were obtained with from three to five cubic centimetres of a strong solution of chloride of sodium, but the staining never reached farther than the cæcum. Angeraut, in a thesis published in Paris in 1894, affirmed as the result of experimental investigations that the ileo-cæcal valve did not always present the adequacy attributed to it by anatomists and that it might be permeated by fluids introduced into the rectum. Coutani has recorded two cases in which after injections of large quantities of olive oil into the rectum for the relief of constipation the patients were seized with eructations and vomiting, the vomited matter containing oil. Jaccoud mentions the case of a hysterical young woman who from time to time vomited motions which were formed, cylindrical, brown in colour, and of characteristic odour. Fully realising the deception often practised by such patients every possible precaution was taken but the phenomenon continued. Ten days later the patient contracted enteric fever, dying in the third week, but at the necropsy no anatomical peculiarity was detected, there being nothing observable but the characteristic lesions of the disease. Briguet reports a case in which an enema of coffee was vomited a quarter of an hour after its administration. Experimentally an injection was given of a fluid coloured blue with tincture of litmus, and in 12 minutes it was rejected by the mouth, having been turned red by the acid of the gastric juice. In a similar manner a saline injection was evacuated by the mouth and gave the usual reaction with nitrate of silver. Pie mentions a case in which an injection of 150 grammes of almond emulsion, containing ten minims of tincture of opium, was vomited in half an hour, the patient distinctly recognising the taste of the laudanum. Suppositories even are sometimes rejected by the mouth. Sennest records the case of a girl, aged 12 years, who vomited a large suppository introduced into the rectum "dans le temps de réciter un *Pater noster* et un *Ave Maria*." A second suppository secured by a thread was then introduced, but the reverse peristalsis was sufficiently strong to break the cord and the suppository was vomited with the fragments of thread attached. A third suppository was

tried, secured by four strong ligatures, but the result was the same. Several similar cases are recorded in Dr. A. P. Gros's "Traitement de certaines Maladies de l'Estomac."

SUSSEX COUNTY HOSPITAL.

A CASE OF CEREBRAL HÆMORRHAGE WITH ARRESTED RESPIRATION FOR 18½ HOURS.

(Under the care of Dr. E. MACKEY.)

FOR the notes of the case we are indebted to Dr. T. Barrett Heggs, house physician.

A man, aged 23 years, was admitted into Sussex County Hospital under the care of Dr. Mackey on July 29th, 1903, with violent headache. The family history was *nil*. There was a strong hereditary tendency of tubercle in his uncles, aunts, and cousins, but in no nearer relative. He denied having had syphilis. He had had pneumonia in 1899. He dated his present illness back to October, 1901. When in the mounted infantry in South Africa he was thrown from a horse at Spitzkop, was concussed, and received a scalp wound. No symptoms followed till March, 1903 (18 months after the accident), when frontal and occipital headache came on each day and often prevented sleep at night. He was faint, sick, and giddy, and often vomited with headache. For two months he had been unsteady in walking and his knees gave way.

On admission the pulse was 80 and the respirations were 20. The patient's appearance was normal. There was no tenderness or depression in the skull. His mental capacity was rather subnormal and he was slow of speech. The headache generally came on in the early morning, sometimes passing from the forehead across the vertex to the occiput; at others it was constant in the frontal and occipital regions. His gait was ataxic and reeling and he fell to either side but more to the right. Romberg's sign was positive even with the eyes open. The pupils were dilated equally, reacting to light and to accommodation. There was no paresis or nystagmus. There was a small patch on the inner margin of the right optic disc, probably congenital in origin. No sign of optic neuritis was present (Mr. W. W. Griffin). The organic reflexes were normal. The knee-jerks were slightly exaggerated on both sides. There was no patellar clonus. Ankle clonus was present on both sides, more sometimes in one than the other. The plantar reflex was present, sensation was normal, power was good, and there was no Babinski reflex. Coördination in the arms was slightly imperfect and was worse in the left arm, but power was good and sensation was normal. The wrist and triceps jerks were normal. The pulse was small, regular in force and rhythm, and normal in tension. There was an occasional reduplicated first sound of the heart, otherwise that organ was normal. The symptoms improved much for a time, but from August 26th the headache became gradually worse, generally appearing between 3 and 5 A.M. and often followed within an hour or so by vomiting. The vomiting sometimes followed walking about more than usual. The fundi still showed absence of optic neuritis. The temperature was continually subnormal (from 97·4° to 98·2° F.). The treatment internally was iodine—first as the syrup of hydriodic acid and later as iodide of potassium in 20-grain doses three times a day, also antipyrin, bromide, and cannabis indica as required. During the night of the 28th the headache was very bad. He vomited at 3.30 A.M. The headache, relieved by a powder for a time, recurred later in the morning and sinapisms were applied to the nape of the neck. At 1.40 P.M. Dr. Mackey was called to see the patient. He found him lying with eyes open and fixed, equally dilated pupils and not reacting to light, and insensitive corneæ. The face was grey and cyanosed and there was slight twitching of the jaw but no other movement. There was no attempt at respiration made (no moisture was deposited on a mirror). The pulse was irregular but otherwise very fair. The patient was quite warm. All the muscles were quite flaccid. Artificial respiration was begun and sufficient respiration could be maintained by rhythmical compression of the chest. In a short time the patient regained a good colour and the pulse improved. Artificial respiration was discontinued for 15 minutes and the patient became cyanosed and the pulse irregular. On resuming artificial respiration the colour and pulse improved. Oxygen was tried with no effect. Ether and strychnine were injected. Amyl nitrite was given but still no attempt at respiration was made. The faradic current applied with a pole on the nape of the neck and the other over the brachial plexus produced contraction of the extraordinary muscles of respiration and it was possible to keep up artificial respiration by this contraction and as the muscles failed to respond compression of the chest was resumed. Still the pulse was very fair but at times irregular.

A surgical consultation discountenanced trephining, since absence of stertor was taken to indicate absence of brain pressure. Lumbar puncture was performed at 6.15 P.M. and four drachms of clear cerebro-spinal fluid were drawn off (bacteriological examination failed to find any abnormality in it), after which the pulse improved but the general condition remained the same. An attempt to pass a catheter caused erection of the penis. Nutrient enemata were given every four hours. Artificial respiration was continued all night. Ether and strychnine were given hypodermically as required more and more frequently. Mercurial inunction was carried out. 12 ounces of saline solution were injected per rectum at 9.20 P.M.; this was retained; when repeated at 6.30 A.M. it was returned. The pulse ceased at 8.15 A.M. on August 28th, 18½ hours after the respiration ceased.

Necropsy.—To the naked eye there was no sign of tubercle in the body. The organs were normal, as were also the cranial bones and the spine. The cerebral membranes, sinuses, and arteries were normal. There was no meningitis. No tubercles were present on the meninges. There was an excess of cerebro-spinal fluid. The ventricles were not over-distended. The medulla and upper cord were normal. The lower cord was not examined. At the outer side and upper aspect of the right hemisphere of the cerebellum an old blood-clot half an inch in diameter was found lying just under the surface; also a more recent small hæmorrhage in the left lobe of the pons. A section of this portion on microscopical examination showed thrombosis of some of the larger vessels with commencing organisation of the clot. The surrounding cerebral substance was degenerated. The most striking features of the section were the periarteritis and the enormous polynuclear giant cells in contact with many of the capillary vessels. (Query, traumatic, specific, or tuberculosis? Either might be followed by thrombosis.)

The second more recent hæmorrhage in the pons was no doubt the cause of the peculiar symptoms and of death. Was the primary hæmorrhage in the cerebellum produced in South Africa 18 months before the onset of symptoms? This seems improbable.

Reviews and Notices of Books.

Introduction à l'Étude Clinique et à la Pratique des Accouchements: Anatomie, Présentations et Positions, Mécanisme, Toucher, Manœuvres, Extraction du Siège, Version, Forceps. By Professor L.-H. FARABEUF and Dr. HENRI VARNIER. Preface by Professor A. PINARD. Illustrations by L.-H. FARABEUF, being with necessary repetitions 362 figures. New edition revised and corrected by Professor L.-H. FARABEUF. Paris: G. Steinheil. Price 15 francs.

THE appearance of a second edition of this well-known work will be welcomed by all obstetricians. The death of Professor Varnier has left the task of revision to Professor Farabeuf. He has embodied all the most recent researches and has rewritten in great part some of the chapters, more especially the one dealing with the application of the forceps to the head lying above the pelvic brim. The increase in the number of operations of symphysiotomy and of Cæsarean section performed in France has caused some alteration in the treatment advocated in this chapter for such cases. The book contains an immense amount of information on all the problems connected with the progress of natural labour. The anatomy of the pelvis and of the

fœtus, more especially of its head, is very fully discussed; this is followed by a description of the mechanism of labour in all the different presentations; and then the method of carrying out vaginal examinations and the diagnosis of the various presentations are given in great detail. The rest of the work is concerned with the operative delivery of the breech, the treatment of shoulder presentation by version, and the application of the forceps. The descriptions are rendered the more valuable in that they are illustrated and confirmed by the numerous researches which the authors have carried out in these various subjects. These experiments have been conducted in the most natural manner possible, as they have been practised on the "natural mannequin"—that is to say, on cadavers, mainly those of women dying from eclampsia during the course of, or before, the onset of labour and in whom the natural passages were still in good condition and dilatable. These experimental studies have been controlled by laboratory researches on frozen sections of the bodies of women who died during pregnancy or during labour and by clinical observations in the clinique of Professor Pinard. The outcome of the authors' studies—viz., this volume—is of the highest possible merit and forms a most valuable memorial of the late Professor Varnier, to whom a great deal of the credit is due. The book is one of the most important modern contributions to obstetric literature and will be welcomed in its revised form by all those who are engaged in the study of this branch of medicine. The figures which form so marked a feature of the book, and many of which have found their way into numerous text-books of midwifery, are most admirably drawn and reproduced.

The Pocket Companion to the British Pharmacopœia. By PETER WYATT SQUIRE. London: J. and A. Churchill. 1904. Pp. 766.

Squire's "Companion to the British Pharmacopœia" has long been known and valued by the members of the medical profession and by all interested in recent advances in pharmacy. The present volume is constructed on the same lines and its smaller size is intended to render it more serviceable; it must, however, be admitted that the name of "Pocket Companion" is rather a misnomer, for few medical men with any regard for the fit of their garments would care to find room for this book in addition to the other necessary articles they have to carry about with them. It may be a "handy manual" but it is not a pocket companion. The author states that he desires to afford information on such matters as are commonly arising in the ordinary course of prescribing and dispensing, while giving notes on improved pharmaceutical processes and criticisms on the official tests which involve a considerable amount of experimental work.

The adaptation of material to the smaller setting has been effected with great discrimination. The author has retained just those features for which the "Companion" was most frequently consulted by medical men and has exerted judicious compression in many directions. Although generally arranged in alphabetical order the divergences from this plan are sufficiently numerous to render indispensable frequent reference to the index and it may at once be stated that the index appears to be very complete. By the use of small type for many new remedies, which are comparatively little used, much space has been economised to be devoted to more important amplifications of "Prescribing Notes." It is, perhaps, a sign of the times that the 50 spas in Britain of the larger "Companion" are reduced to nine in the smaller book and that we are spared the long analytical tables relating to the foreign spas. About 30 pages of the "Companion" which dealt with articles employed in chemical testing have also been deleted with advantage; these are of necessity included in the British Pharmacopœia but they were not required in the "Companion" and we are glad not to find them in the "Pocket Companion."

We have tested this volume in many places and we have not noticed any serious omissions in the attempt to include in a small space reference to all noteworthy therapeutic developments. The only exceptions are that the author refrains in most instances from ascribing any medicinal properties to many of the drugs included in the Indian and Colonial Addendum to the British Pharmacopœia. Dr. R. Tanner Hewlett has rewritten a short section on Therapeutic Agents of Microbial Origin. The book concludes with a therapeutical classification of remedies and with a list of remedies employed in special ailments which betray the difficulty inseparable from the attempt to find hints of value under the name of a disease or symptom. Thus in seven lines remedies for flatulence are included and the same space is allotted to remedies for typhoid fever, with no indication of the circumstances in which any one of them may be required. The author is to be congratulated upon the thoroughly practical value of all that relates to dispensing and prescribing and we must not cavil if on matters of treatment the information is not up to the level of the branch of medicine in which he has personal experience.

Membranous Catarrh of the Intestines. By Professor Dr. CARL VON NOORDEN, Physician-in-Chief to the City Hospital, Frankfort-on-the-Main. With the collaboration of Dr. CARL DAPPER. Bristol: John Wright and Co. 1903. Pp. 64. Price 2*s.* 6*d.*

THIS volume constitutes Part III. of several "Clinical Treatises on the Pathology and Therapy of Disorders of Metabolism and Nutrition" written by Professor von Noorden. A very good account is given of the clinical characters of membranous catarrh of the intestines, sometimes called "colica mucosa." The two cardinal signs of the disease are evacuation of mucus and recurring attacks of pain. The authors point out that the excreted mucus may assume different types; that it may either be loose and glairy, or that it may be more solid, drier, and formed of strands that are tightly interlaced to form reticulated structures. These two types, however, represent extremes and between the two many intermediary transitions are noticed. Professor von Noorden considers that the disease is due to the existence of some morbid nervous reflex process brought about by the irritation of the intestinal mucosa by dry hard scybala and upon this assumption the treatment of the malady is founded. The portion of the work devoted to treatment will be found very interesting and as the condition not infrequently proves rebellious to ordinary measures much may be learned from a study of these pages.

Professor von Noorden and Dr. Dapper divide the treatment into symptomatic and "causal." The object of the former is to suppress the attack as soon and as completely as possible. This is necessary in order to relieve the pain and the distress of the patient and so to prevent the deleterious consequences that may follow both in regard to the general nutrition of the sufferer and the whole nervous system. To this end rest in bed is indicated and the authors unequivocably advise the administration of narcotics, although some physicians oppose this course. Morphine or opium may be given either by hypodermic injection or in the form of suppositories. Enemata of oil and water are also recommended. The "causal treatment" is described at length. Any treatment of diseases of the digestive tract must in the first place be dietetic and after considerable experience Professor von Noorden is emphatic in recommending a coarse laxative diet consisting of bread containing a large proportion of husks, as great a variety as possible of leguminous

plants including the husks, and fruit with small seeds and thick skins, besides large quantities of fat, in particular of butter and bacon. Massage of the large intestine, especially of the sigmoid flexure, is also advised. It is claimed that treatment on the above lines will speedily bring about a complete cure. We have merely given the general outline of the course to be pursued and can recommend our readers to refer to the original work for the details of the daily routine which is necessary in order to bring about the desired effect.

International Clinics. Edited by A. O. J. Kelly, A.M., M.D., Philadelphia, U.S.A. Vol. III. (1903) and Vol. IV. (1904). Thirteenth series. London: J. B. Lippincott Company. Vol. III., pp. 305, price 10*s.* 6*d.*; Vol. IV., pp. 321.

MANY interesting papers are contained in the third volume (thirteenth series) of this well-known publication. There are several good communications on diseases of the gall-bladder and gall-ducts—namely, Some Medical Aspects of the Diseases of the Gall-bladder and Gall-ducts, by Dr. J. H. Musser; the Causation, Symptoms, and Diagnosis of Gall-stones, by Dr. R. D. Rudolph; the Diagnosis and Medical Treatment of Cholelithiasis and Cholecystitis, by Dr. C. G. Stockton; Biliary Cirrhosis of the Liver, with and without Cholelithiasis, by Dr. F. Parkes Weber; the Value of, and Indications for, Surgical Intervention in Cholelithiasis, by Dr. F. Lejars; and the Surgical and Post-operative Treatment of Chronic Gall-stone Disease, by Dr. J. B. Deaver. These form an interesting group of papers dealing with morbid conditions of frequent occurrence the diagnosis and treatment of which have of late years received considerable attention. Dr. Stockton remarks on the occurrence of pericholecystitis in connexion with cholelithiasis, which gives rise to continuous pain and some constitutional disturbance. There is then a localised peritonitis which may extend sufficiently to produce the gravest results, even causing perforation. While in some cases, as the result of ulceration, a passage may be formed between the gall-bladder and the intestine, thus leading to drainage of the gall-bladder, possibly the escape of calculi, and even ultimate cure of the case, it too often happens that a perforation into the peritoneal cavity results from the process, following which a rapid septic peritonitis is to be expected. Another interesting article in this volume is that on Malarial Infections and their Parasitology, Symptomatology, Diagnosis, and Treatment, by Dr. C. F. Craig. The author's remarks on the "mosquito cycle" of the malarial parasites are particularly worthy of note.

Vol. IV. contains many interesting communications on important subjects. Dr. J. Tyson writes on the Clinical Features and Treatment of Ulcer of the Stomach. He rightly draws attention to the operative treatment of this affection. Experience is accumulating showing the good results that have been obtained in those cases which have defied treatment by the ordinary means. Dr. Tyson refers mainly to those instances which have been characterised by the occurrence of severe hæmatemesis. There is, however, another type in which the patient's life is rendered wretched owing to the constant pain and vomiting induced by taking food; in these cases operation has been followed by complete or very great relief. Attention may be drawn to an article by Dr. James Burnett on Angioneurotic Œdema. This is a condition which has not been very generally recognised; it may be defined as a circumscribed swelling associated with changes of sensation in the part affected and occasioned by a vaso-motor neurosis. The site of the swelling may be almost anywhere but the commonest areas involved are the eyelids, lips, cheeks, throat, hands, and feet. Dr. Burnett believes that the source of the affection lies in the medulla. The vaso-motor centre is readily influenced reflexly by sensory nerves but it can act quite automatically—that is, without the intervention of external stimuli. He recognises three clinical varieties: the traumatic, the neurotic, and those cases associated with the menopause. For clinical purposes this classification may be conveniently accepted. The treatment of angioneurotic œdema is similar to that of mild cases of neurasthenia.

Amongst the communications on surgical subjects is one by Mr. W. H. Battle and Mr. E. M. Corner on the Differential Diagnosis of Acute Abdominal Conditions which require Surgical Treatment. Appendicitis naturally at once presents itself to the practitioner's mind when an acute abdominal case is seen. The differential diagnosis in such instances may be most difficult, yet on the diagnosis and line of treatment may depend the patient's life. Mr. Battle and Mr. Corner deal with the subject of diagnosis of acute abdominal conditions in a most able manner and their observations are worthy of careful study. The volume concludes with an admirable *résumé* on the Present State of our Knowledge of Immunity by Dr. J. McFarland.

Text-book of Diseases of the Eye for Students and Practitioners of Medicine. By HOWARD F. HANSELL, A.M., M.D., Professor of Diseases of the Eye, Jefferson Medical College, Philadelphia; and WILLIAM H. SWEET, M.D., Demonstrator of Ophthalmology, Jefferson Medical College. With chapters by CHRISTIAN R. HOLMES, M.D., CASEY A. WOOD, M.D., and WENDELL REBER. With 256 illustrations, including coloured plates. London: Rebman, Limited. 1903. Pp. 532. Price 17*s.* net.

THIS text-book contains a very good *résumé* of the present state of ophthalmological knowledge and is well adapted to the purpose for which it was designed. It is essentially practical and hence but scanty space is devoted to optics. There is, however, sufficient to enable brief explanations accompanied by diagrams to be given of the nature of prisms and of the forms and proportions of concave, convex, and cylindrical glasses, of mirrors, of the formation of the image in the ophthalmoscope, in the ophthalmometer, and in retinoscopy, as well as of the adaptation of lenses for the correction of errors of refraction. The style is clear and if the contents of the work are thoroughly mastered neither the student nor the practitioner need be apprehensive of the correctness of his diagnosis or of the propriety of the treatment which he intends to adopt. In the section on Phlyctenular Keratitis we notice that the authors recommend, and in this we are in full accordance with them, that the use of sweetmeats and pastry should be interdicted.

A good section is devoted to the subject of Foreign Bodies in the Eyeball, wherein it is shown that their presence and nature can be to some extent determined by a consideration of the circumstances in which the injury was inflicted. Another symptom to be noted is the presence of "siderosis," or the rusty-brown discolouration of the iris which is likely to follow persistent retention of any foreign body in the eye. The use of the ophthalmoscope and especially the employment of the Roentgen rays, by means of which a shadow can be obtained of a fragment of shot, glass, stone, or coal, and of the sideroscope (not "siderscope" as given both in the text and index) are also considered; and notice is called to the pain caused by the approximation of a strong magnet. Good woodcuts are given showing the old-fashioned Hirschberg magnet, the medium-sized magnet of Dr. Sweet, one of the authors of this treatise, and the giant magnet of Haab, and directions are given in regard to the mode in which magnets should be used. There is an interesting and valuable section on the Economic Value of Vision—a subject which has hitherto not received sufficient attention.

The chapters on the Diseases of the Lacrymal Apparatus, Orbit, and Cavities accessory to the Orbit, by Dr. Christian R. Holmes of Cincinnati; on Ocular Symptoms in General

Disease, by Dr. Casey A. Wood of Chicago; and on the Pupil in Health and Disease, by Dr. Wendell Reber of Philadelphia, are important and valuable additions to the work. Dr. Holmes recommends the gradual dilatation of the ducts in cases of lacrymal obstruction, increasing the size until the largest probes are passed, which, although good authorities may be cited for the practice, we are inclined to regard as rarely advisable, as a matter of fact, epiphora often occurs even when the larger probes can be easily passed.

In speaking of the operations for cataract the authors are cautious in their statements but appear to prefer the operation of extraction with iridectomy. They remark, however, that "the simple is the ideal method in selected cases, its great advantage consisting in the preservation of a round pupil. The greater difficulty in expressing the lens and in freeing the anterior chamber of particles of retained cortical material is not regarded as an argument against the operation. The most serious objection to simple extraction is the frequency of prolapse of the iris. Moreover, operations for after-cataract are more frequently required. The disadvantages of the combined operation are the mutilation of the iris, hæmorrhage into the anterior chamber, and subsequent disturbance of vision by the coloboma." They consider the combined operation to be undertaken preferably in nervous patients; in all complicated cataracts; in cases where the iris reacts sluggishly or where the anterior chamber is shallow; in immature cataract, and in eyes the subject of chronic inflammation. Amongst the dangers of the operation not mentioned by the authors is the failure to recognise that the point of the knife has not penetrated the whole thickness of the cornea but is travelling between the layers. We have seen this occur on several occasions in inexperienced hands with fatal results to vision. The authors might with advantage have sounded a note of warning to young practitioners against undertaking at too early a period an operation for the division or removal of a secondary cataract. Cortical substance undergoes absorption in the course of a year or two with steady improvement in vision and if the needle is too freely used the vitreous, bulging forward, is apt to block the iridocorneal angle and to induce an attack of glaucoma, for which instant attention and probably operation are required. Needling for secondary cataract should not be undertaken without due consideration.

A feature of the book is the excellence of the illustrations which we have not seen surpassed and which are set off to the best advantage by the quality of the paper on which they are printed. One or two of them are coloured but there are several in which the introduction of colour would be a distinct improvement. For example, in the illustration of interstitial keratitis the shading required to represent the fine pericorneal branches of the anterior ciliary arteries, though quite correctly placed, gives the impression of a marked chemosis, the cornea appearing at the bottom of a pit, a condition which in that affection does not occur. Were the ciliary circumcorneal zone coloured this aspect of a depressed cornea would be removed. The drawing representing the arteries and veins surrounding the eye would also be much improved by tinting these vessels red and blue respectively and coloured drawings of some of the diseases of the fundus would add to the beauty of the work and at the same time render it more instructive to the student. The illustrations of the operations for the extraction of cataract, for pterygium, for tenotomy, for iridectomy, for entropion and ectropion, for tarsorrhaphy, and those showing various diseases as glioma, carcinoma, sarcoma, and lacrymal affections, are all very creditably executed and will prove serviceable to the practitioner who is called upon to operate. We have much pleasure in recommending the volume to our readers.

LIBRARY TABLE.

A Manual of the Practice of Medicine. By A. A. STEVENS, A.M., M.D., Professor of Pathology in the Woman's Medical College of Pennsylvania; Lecturer on Physical Diagnosis in the University of Pennsylvania; Physician to the Episcopal Hospital and to St. Agnes' Hospital. Sixth edition, revised and enlarged. Illustrated. London, Philadelphia, and New York: W. B. Saunders and Co. 1903. Pp. 556. Price 10*s.* 6*d.*—This manual is intended especially for students and as it has reached a sixth edition it has evidently been duly appreciated. For purposes of examination, however, we cannot recommend it to English students, but to supplement study in the wards and out-patient rooms—in other words, as a guide to purely clinical work—it will be found useful. The remarks on physical examination will considerably aid the student in the early days of his study of practical medicine. By reference to a book of this nature many hints may be obtained which will prove of value in intimating the phenomena which may occur in various diseases and how they should be interpreted. A student may be able to hear certain sounds with the stethoscope but he requires instruction as to the correct deductions to be made from them. Throughout the book the remarks dealing with symptoms and physical examination are quite satisfactory but those concerning pathology are too condensed to be of real value. The subject of differential diagnosis also is considered very briefly. This is especially so in the section on diseases of the nervous system. The directions as to treatment are necessarily condensed but the author has succeeded in giving a large amount of useful information in a small space. In this edition the entire section on diseases of the digestive system has been rewritten and will now be found full and accurate.

Olive Latham. By E. L. VOYNICH. London: William Heinemann. 1904. Pp. 286. Price 6*s.*—This is a very painful and exceedingly clever book. Olive Latham is the daughter of a curiously mixed parentage, for her father was a scholar and an enthusiast with a passion for the education of the masses, while the mother was a woman of the eminently respectable middle-class English type who presented her daughter with the "Poems of Frances Ridley Havergal" when she went away to become a probationer in a hospital. When later she came home as a nurse she was somewhat of a trial to her father, being a little like the lady of whom it was said that she was "icily regular, faultily faultless." When her father had "given her in the shy, half reluctant way of a man naturally reserved and long used to silence some small hint of his secret grief" she did not wound him by any tactlessness; she listened to him with grave attention, but next morning when he came down to breakfast he found some small pepsin tablets laid beside his plate. But Olive Latham had at the same time infinite potentialities for romance. She had become engaged to Vladimir Damarov, a Russian revolutionist, and on the receipt of an urgent telegram from Karol Slavinski, a Polish friend of his, she starts at once for Russia to nurse him. The Russian section of the book, which is saturated with the horror of despair, is the most effective part of a remarkable work. There is no fine writing about it and the pity of it is that it reads like absolute truth. Small wonder that Olive's nerves broke down after Vladimir's death or that on coming home she should have suffered from that horror of black darkness which many know so well but which we have never seen so well described. Mrs. Voynich's psychology is sound and learned without being priggish, therefore it is convincing, while she deserves great praise for the care which she has taken to get her medical details correct, especially as she afflicts Karol Slavinski with disseminated sclerosis. The book is not a cheerful one but it is well worth reading.

THE BRITISH MEDICAL ASSOCIATION.

MEETING AT OXFORD.

THE SECTIONS.

MEDICINE.

FRIDAY, JULY 29TH.

Dr. J. MACKENZIE (Burnley) opened the meeting by reading a paper on

The Maternal Heart in Pregnancy.

The results of an inquiry into the changes in the circulation of healthy pregnant women were given. These pointed to inefficiency in the work of the heart, particularly to engorgement of the right side. This was extremely marked in mitral stenosis, and an analysis of certain symptoms was given to illustrate the danger of pregnancy in these cases. The murmurs of mitral stenosis were dealt with and it was shown that the lesion was progressive; when the presystolic murmur disappeared and only a diastolic murmur was left the auricle was paralysed and the cardiac rhythm became irregular. Tracings of the apex beat and jugular veins were shown to prove these statements. Dr. Mackenzie considered that pregnancy should be forbidden when there were marked signs of failure of compensation, and even when with fair compensation the pulse was irregular, or when only a diastolic murmur was present at the apex. If pregnancy had already begun it was justifiable to interfere in such conditions. Pregnancy might be permitted with a presystolic murmur and a normal apex beat within the nipple line. The onset of œdema of the lungs was the most important sign to watch for during pregnancy. The paper was illustrated by many tracings of the radial pulse, the apex beat, auricular contraction, and jugular wave in the conditions described.

Dr. H. O. NICHOLSON (Edinburgh) read a paper on

The Management of Cases of Pregnancy complicated by Heart Disease,

in which he considered the following points: (1) the blood pressure during normal pregnancy; (2) the conditions leading to hypertrophy of the heart during pregnancy; and (3) the state of tone of the arteries and arterioles, as observed (*a*) in primiparæ and (*b*) in multiparæ, during normal pregnancy and when the pregnancy was complicated by disease of the heart. During pregnancy a toxin of unknown nature led to increased peripheral resistance which might become great enough to cause anuria and eclampsia. With regard to the treatment of dropsy occurring towards the end of pregnancy small doses of mercury two or three times a week gave better results than any vegetable aperient. Vasodilators were of great value where the embarrassed heart threatened failure; and two cases were quoted where 15 grains of thyroid extract given daily relieved the cardiac engorgement and aided diuresis. If alarming symptoms occurred from distension of the right heart towards the end of labour amyl nitrite was of value.

Dr. G. A. GIBSON (Edinburgh) read a paper on

Bradycardia,

illustrated by lantern slides. The so-called false bradycardia, or slow pulse unaccompanied by slowness of the heart, called for no consideration. True bradycardia or slowness of the heart beat fell under several categories: (1) cases in which the whole heart was involved, owing to the influence of the vagus; (2) cases in which the conductivity of the cardiac impulse was impaired, only a few of the auricular contractions being conducted to the ventricle; and (3) cases in which the ventricle took on an independent rhythm, pulsating without any preceding contractions of the auricle. Tracings were exhibited to the meeting, taken from a case in which the radial pulse had varied from 26 to 32 per minute. By taking tracings at the same time from the jugular vein and from the radial artery it was seen that to one beat of the radial there were three or four beats of the auricle. Tracings of the same case taken synchronously from the apex beat and the jugular vein showed that only one of three or four auricular contractions was conducted to the ventricle. Tracings from other cases showed imperfect ventricular pulsations which were too weak to cause a peripheral pulse wave. In cases of recurrent bradycardia epileptiform attacks were frequent sequelæ and were first described by Adams of Dublin. As regarded the cause of bradycardia Dr. Gibson had already expressed the opinion that with imperfect circulation in the brain any undue exertion of the brain tissues might lead to recurrent bradycardia. In response to a request from Dr. T. D. ACLAND (London) that he should give his experience in the treatment of bradycardia, Dr. Gibson said that he had never found atropin to be of any use, but digitalis, strophanthus, and other members of the digitalis group had in his hands yielded more or less success. He believed that they acted by improving the nutrition of the cardiac muscle. It was all-important that the vessels of the abdomen and its viscera should not be dilated and he believed that for the attainment of this object a modified course of Ling's Swedish gymnastics was of greater use than the Nauheim method of treatment.

Dr. W. J. TYSON (Folkestone) stated that in his experience bradycardia was more common in old age and in women and that atropin was of value in its treatment.

Serum Treatment of Disease.

Dr. E. W. GOODALL (London) opened a discussion on the Present State of Serum Therapeutics, with a brief review of the origin of serum therapeutics ten years previously and their subsequent rapid development. He stated his intention of referring only to antitoxic sera proper—i.e., the blood serum of animals immunised against certain diseases, usually bacterial. There were two kinds of sera now in use: (1) antitoxic, neutralising the toxic products of a micro-organism; and (2) antimicrobic, destroying the organism itself or inhibiting its action. There were two corresponding classes of diseases: (1) the intoxications (of which diphtheria was an example), and (2) the infections (of which plague was an example). Antitoxic serum was prepared by immunising animals with toxins, antimicrobic serum by immunising with micro-organisms. In some diseases both kinds of serum could be employed. 1. Diseases treated by antitoxic sera were diphtheria, tetanus, snake-bite, hay fever, dysentery, plague, typhoid fever, and tuberculosis. 2. Diseases treated by antimicrobic sera were streptococcal and staphylococcal infection, plague, typhoid fever, dysentery, pneumonia, anthrax, tuberculosis, Malta fever, and relapsing fever. 3. Diseases treated by sera of uncertain nature were smallpox, pertussis, yellow fever, syphilis, general paralysis of the insane, epilepsy, and cancer. Many of these so far had yielded no certain results and workers publishing uncertain and immature results deserved severe censure. The results of the antisera introduced by Maragliano and Marmorek for tuberculosis were unsatisfactory. A serum had been prepared which protected animals against pneumonia, but this was not as yet efficacious as a curative agent for man. Sclavo of Sienna had had fair results with anthrax. The antitoxin treatment of diphtheria had been eminently successful. It was introduced in 1894 and elaborate reports had been drawn up by the medical superintendents of the fever hospitals dealing with 10,700 cases of diphtheria, 5000 of which had been treated with antitoxin. Dr. Goodall quoted figures showing the rapid decline of the case-mortality from 22·8 in 1895 to 11 in 1902 as the percentage of cases treated with antitoxin rose from 61·8 in 1895 to 87·9 in 1902. The recovery-rate after tracheotomy had more than doubled since the introduction of antitoxin; the records of the Asylums Board showed that during the years 1889 to 1894 inclusive 29·6 per cent. recovered after tracheotomy and from 1894 to 1902 inclusive 62·9 per cent. recovered. Post-diphtheritic paralysis had increased since the introduction of antitoxin. Severe cases, or cases seen late in the course of the disease, which without antitoxin must have had a fatal termination were enabled with antitoxin to survive. Dr. F. J. Woollacott had given details in the Asylums Board reports for 1898 and in THE LANCET in 1899.[1] The result of the treatment of tetanus by antitoxin was not so striking as was that of the treatment of diphtheria; but this could not be expected when it was remembered that the treatment was not in most cases administered until spasms had set in, and spasms in tetanus corresponded in point of time to paralysis in diphtheria—i.e., they were due to the remote effects of the toxin. The experimental basis of treatment of snake-bites was sound

[1] THE LANCET, August 26th, 1899, p. 561.

but practical application was difficult owing to the large variety of venomous snakes and the fact that serum efficacious for one type failed to neutralise the venom of another type. Dunbar of Homburg had within the last two years extracted a toxic albuminous substance from the pollen of rye and maize. Injected subcutaneously into a susceptible person the toxin produced local and general symptoms of hay fever. Horses were inoculated with the toxin and their serum contained an antitoxin which promised to act remedially when applied as a remedy for hay fever. The serum of Yersin, of Lustig, and of others had not been very successful with plague and the Indian Plague Commission had not reported favourably upon it. In dysentery the results of serum treatment were not so far very promising. It was difficult to form a correct conclusion as to the result of the serum treatment in typhoid fever because the mortality of that disease varied greatly within limited periods of time and in statistics the age of the patients, an important factor in comparing mortality rates, was frequently omitted. The Chantemesse serum treatment was employed in 186 cases in a Parisian hospital from April 1st, 1901, to Dec. 1st, 1902, with a mortality of 3·7 per cent. During the same period in other hospitals in Paris 1478 cases treated with ordinary methods had a mortality of 19·3 per cent. Dr. Goodall believed that most obstetricians would endorse the conclusion of the committee of the American Gynæcological Society that they could find no proof that antistreptococcic serum would improve the results in the treatment of streptococcic puerperal infection. There were different strains of streptococci and a polyvalent serum had been produced by immunising horses against different varieties of the organism at the same time. As regarded the prophylactic uses of antisera much success could not be anticipated. The passive immunity conferred by antisera seldom lasted longer than a few weeks. Dr. Goodall then discussed the question of standardisation, the factor on which correct dosage so greatly depended. Ehrlich's "unit" had been accepted as the standard for diphtheria in most countries: in France Roux's standard was still employed. The dose of diphtheria antitoxin was measured by "units"; the doses of tetanus and snake-bite antitoxic sera were measured in terms of so many cubic centimetres. The standardisation of the antimicrobic sera was in a chaotic state. Dr. Goodall's experience with diphtheria had led him to conclude that it was unnecessary to give more than 16,000 units of antitoxin within 24 hours of the commencement of treatment, and in proof of this conclusion he submitted a table of 475 classified cases of diphtheria. There was no doubt that the earlier the case was treated the more favourable was the prognosis. From 2000 to 15,000 units were given within 24 hours of the commencement of treatment, either in one dose or in two or three at intervals of a few hours; the age of the patient should not be taken into consideration. Dr. Goodall then discussed the dosage in tetanus, snake poison, plague, typhoid fever, streptococcic infection, and hay fever. The usual method of administering these sera was by subcutaneous injection and this Dr. Goodall thought would continue to be the method most in vogue. Reference was made to the eruptions sometimes following hypodermic injections, sometimes immediately, sometimes after an interval of several days. He was not aware that there were any contra-indications to the administration of antitoxin. In conclusion, it would be noticed, he said, that the most striking success, clinical as well as experimental, had been reached in the toxæmic diseases rather than in the infections.

Professor S. H. C. MARTIN (London) referred to two experiments with snake venom made by Professor T. R. Fraser: (*a*) toxin and antitoxin were mixed in a glass and injected into an animal and it was determined how much antitoxin was required to neutralise the toxin; (*b*) toxin was injected into one flank of an animal, antitoxin into the other, and it was found that much more antitoxin was required to neutralise the toxin than in (*a*); and (*c*) a third experiment of his own in which he injected toxin subcutaneously and antitoxin into a vein and found that only the same amount of antitoxin was required to neutralise the toxin as in (*a*). The practical conclusion to draw from the last experiment was that antitoxin should be injected intravenously, not subcutaneously, when a patient had urgent symptoms.

Dr. F. FOORD CAIGER (London) emphasised, with statistics, the necessity of early treatment of diphtheria by antitoxin. Post-scarlatinal diphtheria had practically disappeared since the introduction and use of antitoxin. Polyvalent sera were required for the treatment of severe throat and glandular complications of diphtheria. He had tried injections of diphtheria antitoxin combined with anti-streptococcic serum in such cases with poor results. He referred to the rashes consequent on the administration of antitoxin; these were sometimes accompanied by muscular pain, pyrexia, and arthritis, and it was noticeable that such severe serum reactions appeared only after an incubation period of about nine days. Local trouble at the site of inoculation of antitoxin was of considerable severity in some adults, but children rarely suffered at all. Owing to these after effects he advised early administration of antitoxin, even on suspicion, to young children, but recommended waiting in the case of adults and older children. The dose should be regulated according to the severity of the case; the age and size of the patient were unimportant. Intravenous injection of antitoxin should be employed in cases with urgent symptoms.

Dr. W. BULLOCH (London) said that the serum treatment of disease was practicable and a comparatively simple matter in the case of toxæmic diseases, such as diphtheria and tetanus, where only the toxins entered the blood and all that was required was an antitoxin to neutralise the toxin. The case was entirely different and infinitely more complex when the germs themselves entered the blood (as in streptococcal infection, tubercle, typhoid fever, and most microbic diseases) and something was required which would dissolve the bacteria—a bacteriolytic serum. In such conditions Ehrlich had shown that intermediary factors were required, the immune body and the complement. The immune body was obtained from the serum of the animal and had to combine with the complement manufactured by the cells of man. This process was very complex, as anti-immune bodies might be injected into man at the same time and it was impossible to say beforehand whether in giving such serum as a remedy one was not actually lessening the patient's power of resistance and aggravating his disease. Antimicrobic sera, he concluded, should not be employed; at present the only hopeful outlook for such diseases lay in treatment by "vaccines."

Dr. GOODALL replied.

SURGERY.

FRIDAY, JULY 29TH.

Professor J. DEAVER (Philadelphia) read a paper on

Hepatic Drainage.

At the present time the opinion was general, he said, that certain phenomena produced by the action of bacteria in the biliary tract, certain inflammatory changes, were responsible in every instance for the formation of gall-stones. Multiple pregnancies, indiscretions in diet, sedentary habits, a dependent fundus and torpidity of the bile secretion might predispose to, or favour, disease of the gall-bladder wall, but had no influence whatever in the formation of the calculi. The liver, the gall-bladder, and the ducts became infected by the ascent of bacteria from the duodenum by way of the common duct or by an infection of the liver from the blood in the portal vein. Experimental investigations, post-mortem proofs, and clinical experience were teaching that the ascending infection, heretofore believed to be the nearly sole source, could not be responsible for many infections of the bile tract. Quoting from Adami they might assume: (1) "that the colon bacilli in small numbers are in the healthy individual constantly finding their way into the finer branches of the portal circulation; and (2) that one of the functions of the liver is to arrest the further passage of these bacilli into the general circulation and to destroy them through the agency of the specific cells of the organ. Then if the action of the liver cells has been disabled by the toxic products of the bacteria these may reach the bile and spread through the gall-bladder and ducts." Cirrhosis of the liver might be the direct result of infection ascending the common duct from the duodenum or through the portal circulation from the intestine. Literature contained many references to instances of this type of cirrhosis. Several observers had shown that when infected bile was obstructed by ligature the number of bacilli behind the point of obstruction became enormously increased. Many writers believed that the retained bile *per se* did not occasion biliary cirrhosis but that there must also occur inflammation of the bile ducts, cholangitis. In urging the possibility of biliary

cirrhosis resulting from neglected gall-stones Professor Deaver said that he was not unmindful of the fact that jaundice was absent in most cases but there might be sufficient obstruction to lead to disease without there being sufficient to cause jaundice. Adhesions of the gall-bladder and ducts to the surrounding viscera would follow nearly all severe inflammations of the liver from a pericholecystitis and embarrass the functions of the contiguous organs involved by the adhesions. The importance which the presence of gall-stones bore to disease of the pancreas had been emphasised by Mr. Mayo Robson and by Opie. The impaction of a gall-stone in the ampulla of Vater seemed at present to afford the best explanation of many of the observed cases of acute pancreatitis. The question, When is the time of election for operating on a patient suffering from cholelithiasis? had received many answers. Professor Deaver was convinced that operation should be resorted to as soon as it was definitely known that gall-stones were present. In general it might be said that the indications for medical treatment were the following. 1. Acute obstruction of the common duct, for the stone having left the gall-bladder was moving through the common duct and might reach the duodenum. When the disease dragged on, however, with fever and increased pulse-rate then the time had arrived when to defer operation was no longer warrantable, or should symptoms of obstruction return after apparent relief, indicating a fixed position of the stone, operation should be immediately advised. 2. Mild attacks of colic without any inflammatory symptoms unless chronic invalidism was threatened. Such cases were markedly benefited by the Carlsbad treatment. 3. In cases of marked obesity or on account of diabetes or disease of the heart, lung, kidney, or liver in which the shock of operation would result fatally. 4. Carcinoma of the biliary apparatus, unless the obstruction required a palliative operation. The operations most commonly performed on the gall-bladder were (1) cholecystotomy, (2) cholecystostomy, (3) cholecystectomy, (4) choledochotomy, and (5) cholecystenterostomy. 1. Cholecystotomy without drainage had been called the "ideal operation" but it was rarely done now, for drainage of infected bile was always indicated in biliary tract disease. 2. Cholecystostomy—i.e., incision and drainage of the gall-bladder—was the operation of choice in the majority of the lesions of the biliary tract. It was an operation of great simplicity and yet of great practical application. It was indicated in (*a*) every acute infection of the gall-bladder; (*b*) whenever cystodochotomy or choledochotomy was performed, except when cholecystectomy was also done; and (*c*) in chronic conditions except when cholecystectomy was indicated. Mere drainage of the gall-bladder in a case of empyema where the cystic duct was occluded by a stone was irrational, for the removal of the stone was essential for recovery. The technique of the operation varied. Professor Deaver's method was as follows. The gall-bladder having been aspirated and opened and any stone or concretion removed, a rubber drainage-tube was introduced for a distance of about 1·5 centimetres and fastened by a catgut suture to the edges of the gall-bladder wound. The latter were then invaginated, together with the tube, and a purse string Lembert suture was introduced, holding the rubber tube firmly in position. Gauze drainage was introduced beyond the tube and stitched to the gall-bladder with catgut, the intestinal side being guarded with rubber tissue. Before opening the gall-bladder the ducts should be palpated to determine the presence of any obstructing stone, and especially the patency of the cystic duct must be assured before completing the operation. The gauze should be sutured in order to prevent the movements of the diaphragm and of the liver disturbing the original position until adhesions had formed about the drainage-tube. When prolonged drainage was needed the edges of the opening of the gall-bladder might be sutured to the parietal peritoneum and aponeurosis. 3. Cholecystectomy was indicated (*a*) in chronic obstruction of the cystic duct due to a stricture following old ulceration; (*b*) in chronic calculous cholecystitis of a shrunken, functionless gall-bladder provided the common duct was free and there had been no clinical symptoms indicating an existing infection; (*c*) in empyema of the gall-bladder when the organ was seriously damaged; and (*d*) in gangrene or carcinoma of the gall-bladder. 4. Whenever choledochotomy was performed to remove a stone in the common or hepatic duct the duct should be carefully explored for other stones. The technique of the operation varied with the location. When the stone was situated in the ampulla and could not be pushed back into the common duct it was best to open the duodenum and to slit up the papilla. When the stone was elsewhere the duct was opened over the stone and when the stone was removed the duct might be closed with sutures, but drainage should always be employed in these cases. In all cases of obstruction of the common duct an infective cholangitis might be considered as present and tube drainage of the common and hepatic ducts was indicated; and in addition cholecystostomy should be performed. 5. Cholecystenterostomy was indicated (*a*) in benign inoperable obstruction; (*b*) in malignant disease if the patient could bear the operation; (*c*) occasionally in chronic pancreatitis; and (*d*) in conjunction with a plastic operation upon the gall-bladder for the relief of a persisting fistula. Cholecystenterostomy was much less often performed than formerly. The effect of surgical treatment in infection of the bile passages was eminently satisfactory if operation was sought at an early period and before the advent of complications. Less than 5 per cent. of operated cases would require re-operation and the mortality from operation upon uncomplicated cases had been reduced to less than 2 per cent. The Robson technique, with its free, well-placed incision, the sand pillow arching the back, and the dislocation of the liver downward and outward, enabled the operator to bring the ducts into easy access even in the obese. Imperfect drainage was sometimes responsible for failure and might be caused primarily by obstruction of the cystic duct or by the too early removal of the rubber tube. Adhesions following operation might inhibit the movements of the surrounding viscera and give rise to annoying disturbance of the gastro-intestinal tract, particularly of the stomach and duodenum. The use of gauze for drainage should be limited as far as was compatible with safety and the gauze should be guarded on the intestinal side with rubber tissue. By these means the adhesions resulting were thin and filmy.

Professor RODMAN (Philadelphia) read a paper on

Carcinoma of the Mammary Gland; Early Diagnosis and Radical Operation necessary for its Cure.

He dwelt mainly on the numerous lymphatic connexions of the breast and pointed out that immunity from recurrence depended chiefly on a thorough removal of all the lymph nodes liable to be infected.

Mr. W. SAMPSON HANDLEY (London) read a paper on

Certain Defects in the Present Operation for Mammary Cancer,

based on investigations carried out in the Middlesex Hospital Cancer Research Laboratories. He pointed out that the invasion of the lymphatic plexus of the deep fascia by breast cancer was not an embolic process but that the cancer actually grew along the deep fascial plexus like a water weed along a network of irrigation channels, filling them up. This process, to which subcutaneous and osseous metastases were, in his opinion, secondary, might ultimately extend in a centrifugal manner to the greater part of the surface of the body, sparing only the distal portions of the limbs. To emphasise his plea for a freer removal of the deep fascia in a downward direction, he stated that the abdominal viscera were not infrequently infected from the deep fascial plexus by direct infiltration of the abdominal wall in the epigastric angle. From the operative point of view the aim should evidently be to remove as widely as possible a circular area of the deep fascia centred on the primary growth; thus the deep fascia should be removed as far down as a line running three inches below the tip of the ensiform cartilage. The axilla should be opened by turning forward a flap of skin with its base along the lower edge of the pectoralis major. The growth itself should be circumscribed at a safe distance by an annular incision with a linear prolongation downwards along the linea alba so as to allow of the removal of the deep fascia of the epigastric region.

Mr. J. W. THOMSON WALKER (London) gave a lantern demonstration of the Anatomy of Freyer's Operation for Enlarged Prostate, and Mr. P. J. FREYER (London) read a paper[1] on

A Fourth Series of 57 Cases of Removal of Prostates.

These cases had been done since the previous meeting of the British Medical Association and the prostates removed were shown. The patients' ages ranged from 53 to 84 years and the prostates weighed from three-quarters of an ounce to 14¼

[1] See THE LANCET, July 23rd, p. 197.

ounces with an average of three and a quarter ounces. 13 of the cases were operated on in hospital and 44 in private practice. One patient, aged 84 years, was an officer in the army; the prostatic symptoms had lasted for eight years and for five years he had been wholly dependent on the catheter. The urine was fœtid and the patient was emaciated. All the symptoms were completely relieved by the operation and the patient was now in excellent health. Another patient, aged 73 years, had had prostatic symptoms for 15 years and had been entirely dependent on the catheter for ten years and vesical calculi had been removed on two occasions. The prostate was removed entire in its capsule and it weighed 14¼ ounces. The patient was now in good health and could micturate naturally. In another case retention of urine was not complete, although the prostate weighed 10½ ounces. This was probably due to the fact that the prostate was greatly displaced from its normal position towards the bladder, so that there was not much lateral pressure on the urethra. In contrast to this case several prostates were shown weighing from three-quarters of an ounce to one and a half ounces in which there was complete dependence on the catheter. Up to the present Mr. Freyer had performed 110 operations of complete enucleation of the prostate. It was found that in three of these the disease was carcinomatous. Among the remaining 107 operations, there were ten deaths, five of which were from disease incident to old age and apart from the operation; but accepting these deaths as occurring in connexion with the operation they had a mortality of only 9 per cent., in comparison with a death-rate of 12½ from lithotomy in all ages, including children, and of 34½ per cent. from lithotomy between the ages of 55 and 80 years

In the discussion which followed Mr. JORDAN LLOYD (Birmingham) showed a series of sections of prostates by which he maintained that it was proved that enlargement of the prostate was always due to the presence of adenomata.

Dr. H. T. HERRING (London) read a paper on the Cause and Effect of Enlarged Prostate, and Mr. DANIELL (London) maintained that all cases of so-called adenoma of the prostate were produced by overgrowth of the walls of the prostatic ducts and his paper was illustrated by a large number of micro-photographs.

STATE MEDICINE.

FRIDAY, JULY 29TH.

Mrs. HELEN BOSANQUET who opened the discussion on

Poverty and Public Health,

said there was one section of the public which was below the standard of the better informed and it was this class that it became their duty to try to raise to a higher ideal. Much of the sympathetic interest taken in the poor had from its injudicious methods done more harm than good but credit must be given to the workers for their good intentions. The poor did not seem to realise how much those working among them cared for them; they had no desire to better themselves and it thus became a duty to try to arouse them to a higher standard of thought as regards dirt, overcrowding, foul air, and insufficient clothing. A dirty home was, however, no claim for charity. What was wanted was the improvement of general methods, not of details which would follow of their own accord. A definite policy of reform was required among the many workers. She did not believe that the state of their homes and absence of all hygiene were due to poverty in most cases but rather to the want of character and the remedy for this was education. As regarded overcrowding and insanitation if the houses were improved and made wholesome the inhabitants in a short time made them foul and overcrowded them, while in new buildings, as a rule, only the better class of working people were admitted, the lower stratum going elsewhere and merely distributing the overcrowding. The results had been failure. An attempt had been made recently to supplement the children's food by meals at school but this only resulted in the mothers not giving them meals at home, while supplying them with sterilised or prepared milk was taken to mean that the mothers need not nurse their babies. In fact, milk was looked on as a medicine, not as a food. The methods were not wrong but the application of them was; if the people could be made to take an intelligent interest in their homes and families all difficulties would disappear. Mr. Rowntree had shown that the great majority could have healthy homes if they knew how to conduct them. As a matter of fact, the very poor often did more than those better off. Education was, in Mrs. Bosanquet's opinion, the only remedy. Workers in all classes worked from their sense of responsibility, the natural state of man being slackness, hence every effort should be made to make the poor feel their responsibility. The men must be made to take an interest in their families, for, as a rule, they knew little of them and only looked on them as a nuisance. The intelligent feeding of children must be taught, especially those under school age. All women and girls should be taught the care of children and this might be done by district visitors or at mothers' meetings. Some persons were so degraded that nothing would do any good to them and their children should be sent to day industrial schools.

In the absence of Mr. T. P. WHITTAKER, M.P., his paper was read for him and he traced all the evils of the poor to abuse of alcohol and the waste of money on unnecessary things. The majority of workers had plenty of money to live decently if they could only be persuaded to. Drink in his opinion caused poverty. Poverty did not lead people to drink. The drunkenness of the father led to lowered vitality of the family. The livers in the slums were there because they drank and they would not live in model dwellings because they might not overcrowd. The houses were what the inmates made them.

Alderman HUGH HALL (Oxford) said that the housing question was a most unsatisfactory one and was not yet solved. Town life was a permanent fact for many and was largely increasing. In small towns there was some congestion but not nearly as much as in the big ones. The urgent need of improvement was recognised but very little was being done. In Oxford the chief trouble was bad houses, there being very little overcrowding. The mistake was to destroy houses and not to build new ones. In fact, the bicycle was a better friend to the working man than the municipality, for it allowed him to live at a distance from his work in a decent home, while the municipality only turned him out if the area was overcrowded. In his opinion the remedy for the evils was the rating of vacant sites, cheaper dwellings built on money borrowed at a low rate of interest, allowing a long time for repayment, and easier building laws. Municipalities were not progressive or in favour of new methods. The central authority—the Local Government Board—to which the medical officers of health should report on the deficiencies of the towns, should insist on the corporations putting their towns in order. But he believed this would be better done by a new department. In addition public feeling must be aroused.

Dr. G. A. HERON (London) believed that the education of public opinion was the remedy, but it was important to educate the parents, more particularly the mothers, in the care of their children. Medical men were the best qualified to do this, though Lord Londonderry had said there were no teachers available and there would be none till 1906.

Mr. J. STEWART (Clifton) thought that it would be best to educate the teachers to teach the children personal and domestic hygiene. He believed drink was an important factor in the production of poverty. Patient hard work on the question was required and in time a good result would follow.

Miss T. JOHNSTONE believed many women could be found as willing workers and narrated her experience among the factory hands of Bristol.

Dr. J. T. WILSON (Lanark) referred to the difficulties in the way of obtaining sanitary reforms.

Dr. G. F. MCCLEARY (London) did not believe mothers neglected to give their children food because it was supplied at school. The high price of milk was against its wide use, for the poor could not afford it. He did not think everything could be done by education, as some speakers seemed to think, and he did not agree with Mr. Whittaker that drink caused poverty.

Mr. W. MCADAM ECCLES (London) believed that poverty was due to indifference. Education was the remedy to make men respect themselves more and stimulus after. He thought that water should be supplied free.

Dr. GROVES warned those who advocated education not to worry the Education Board. It was anxious to do its best but did not like every one worrying it with his views.

Dr. ALICE DRYSDALE believed that as long as poverty was prevalent it was difficult to raise the standard of public health.

MRS. BOSANQUET, in reply, said that the taste for alcohol was an acquired one and she believed men drank from sheer vacuity of mind. In her opinion much harm was done in talking about the inherited tendency to drink. She believed it was best to drive the poor out of the towns; suitable dwellings should be erected in the outskirts. She was a strong believer in educating the people to the sense of their degradation.

Dr. A. E. BOYCOTT (London) read a paper on

Ankylostomiasis.

His observations were made among the Cornish miners, in whom examination was very difficult owing to the fact that they were not hospital patients. Anæmia was not a symptom to be relied on, as many suffered from the disease and did not show any anæmia. Examination of the fæces was impossible. In his search for a trustworthy means of discovering whether or not a man suffered from the disease he found that a blood examination was the best method, as there was a large increase in the eosinophile bodies. The method was not absolute but a good working one. (Several lantern slides were shown.)

Dr. KENNETH W. GOADBY (London) read a paper entitled

"A Plea for Oral Hygiene, with a Suggestion."

Oral sepsis had recently been shown to be associated with many important diseased conditions and to be the portal of infection in some grave disorders. Dental caries was also important in the production of malnutrition, particularly in children, and might also be the origin of various sorts of stomatitis. In a certain number of well-authenticated cases death might supervene as a result of oral infection, while a considerable number of pathogenic organisms were known to inhabit the mouth from time to time. The pathology of dental caries and with it of infections of the soft tissues of the mouth was found to be associated in a great measure with the alteration that had occurred during recent decades in the composition, both chemical and physical, of the national food-stuffs. There was apparently no definite change in the quantity of lime salt present in individual teeth. Children particularly gave evidence of affections of the nose and throat, associated with carious teeth and oral sepsis, whilst the number of children suffering from these two conditions was at least 80 per cent. With such a large number of the rising generation suffering from dental caries and oral sepsis, with their well-recognised effects upon physical development, the matter became one of national importance and required considering from the point of view of State medicine. The present methods of dealing with oral disease only touched the fringe of what was required to be done; although much was being done by the appointment of dental surgeons to schools, yet the number of dental surgeons in proportion to the number of children to be treated was hopelessly inadequate. The same facts held good for the treatment of cases in dental hospitals. The individuals who required treatment were divisible into three classes: (1) children in schools; (2) young adults, such as domestic servants and the like; and (3) the general mass of the working-class population. Amongst children those of from one year to five years of age were the ones who required special treatment, particularly prophylaxis. The other two classes required more particularly ordinary dental attention and instruction in hygiene. The following scheme was suggested with a view to dealing with this very difficult question: the appointment of a dental surgeon by groups of schools of two or more, together with the local sanitary authority, his work to consist of periodical inspection of the whole of the children once in three months or oftener; the treatment of dental caries and oral disease at some central place, to which the children could conveniently be sent; and the superintendence of the periodical cleansing of the mouths of all young children, which might be performed by an intelligent assistant under the supervision of the dental surgeon. It was also suggested that the medical officer of health for the district should be empowered to send to the dental surgeon for treatment cases of chronic stomatitis and like conditions, especially during epidemics of diphtheria. The local sanitary authority might provide the room and material necessary. For the treatment of the other two classes it was suggested that the existing machinery in the shape of dental hospitals should be enlarged in its scope of operation in the following manner: by the appointment of clinical assistants, qualified men, at a salary, including board, as paid to house surgeons of various hospitals; by a nominal payment being made by patients sufficient to cover working expenses; by the work undertaken being the treatment of dental caries and oral sepsis and not artificial teeth; by the clinical assistants being under the jurisdiction of the hospital staff; and by the existing arrangements of the various hospitals in determining the propriety of treating any doubtful case. The scheme would not be in opposition to the practice of the qualified man and it aimed at treating that class of the population which was largely attended to by unskilled and unqualified persons, with an increase rather than a decrease of oral sepsis.

Mr. C. W. J. BRASHER (Bristol) read a paper on

The Segregation of Tuberculous Patients among Factory Workers

and described the methods employed at the factories of Messrs. J. S. Fry and Sons in Bristol. Here there were 2000 girls and women under 54 superintendents all carefully selected from the numerous applicants. All tuberculous patients were suspended from work, put on the sick fund, and sent to a sanatorium as soon as possible. None of them were allowed to return but were assisted to find work elsewhere or were pensioned. A brief table was given which showed very satisfactory results.

During the meeting the following motion was carried:—

It is highly satisfactory to the State Medicine Section to learn that the council of the British Medical Association have exerted themselves to secure the education of public elementary school teachers in personal (including oral hygiene) and domestic hygiene in order that every child in public elementary and secondary schools may be instructed in these subjects; and they beg to request the council to continue their efforts in this direction.

PATHOLOGY.

THURSDAY, JULY 28TH.

A discussion on the

Rôle of the Lymphocyte

was opened by Dr. G. LOVELL GULLAND (Edinburgh) by a paper entitled "The Lymphocyte; its Nature, Origin, and Development." In entering a plea for unanimity of nomenclature Dr. Gulland referred to the four varieties of non-granular cells—viz., the large and small lymphocytes, large mononuclear, and transitional. Of these the first two are agreed to be identical, but difference of opinion exists with regard to the two latter. The large mononuclears, according to Ehrlich, were distinct from the lymphocytes and became converted in the blood into transitionals, which latter formed the connecting link between the mononuclears and the polymorphonuclear neutrophiles. Dr. Gulland, on the contrary, regarded the leucocytes, mononuclears, and transitionals as merely stages in the development of one type and in no way related to the polymorphonuclears, and he based his contention on the observed facts that in all these cells the cytoplasm was faintly basophile, gradations in depth of colour depending on the thickness and arrangement of the strands and nodes of the cytoplasmic reticulum; granules, he said, existed as nodal points of the cytoplasmic reticulum, though often obscured by the thick strands; differences in the shape and position of the nucleus depended, according to the researches of Heidenhain, on the pull exerted by radii which were embedded in the cytoplasm and which diverged from the centrosome, astrosphere, or attraction sphere, in their endeavour to bring the astrosphere to the centre of the cell whilst the cell was at rest. The nucleus—the chief obstacle—was first pushed to one side, then deformed, becoming first kidney-shaped and afterwards horseshoe-shaped. The greater size of mononuclears and transitionals was explained as being due to absorption of fluid. Finally, the cells were classed into lymphocytes on the one hand, and neutrophiles, eosinophiles, and basophiles or mast-cells on the other. In adult life these two groups of cells were distinct and reacted differently to stimuli; the first were found normally in the blood, the second in the marrow. The point of origin of the lymphocyte was stated as the lymph glands and the lymphatic tissue of the tonsils, intestine, spleen, &c., although numerous lymphocytes could be demonstrated in the healthy marrow; indeed, in the marrow of young animals the lymphocytes often outnumbered the rest of the cells. The view still held by some that lymphocytes could be derived from endothelial cells was adversely commented upon. In conclusion, Dr. Gulland held that the function of the lymphocyte was no doubt largely protective, especially when present in lymph glands and in this connexion an interesting point was raised

in that the chief habitat of lymphocytes apart from lymph glands and marrow was the lymphatic tissue around the hollow tubes of the body—alimentary and respiratory tracts—spots occupied by saprophytic, non-virulent, or attenuated organisms.

Professor ROBERT MUIR (Glasgow) then read a paper entitled

Some General Considerations regarding the Relations of the Lymphocytes, as indicated by Pathological Conditions,

pointing out how easy it was to make in all good faith a series of transition forms from the small lymphocytes to all the members of the leucocyte class and the fallacy of concluding that any one variety might be transformed into any other according to circumstances. In his opinion the chief considerations in connexion with the subject were the phylogenetic and ontogenetic development of the different classes of leucocytes, the character of the cells undergoing active development, and their sites of multiplication and the general behaviour of the different varieties under pathological conditions. He agreed with Dr. Gulland that the hyaline wandering cell with oval nucleus might be taken as the primitive type; next to this he would place the coarsely granular eosinophile—a well-developed and common type of cell even amongst the lower animals—which appeared in the mammalian embryo at an earlier date than the finely granular cell; while the cells with well-marked neutrophile granules did not appear until the fifth month. In the bone marrow non-granular cells with basophile protoplasm accumulated first and afterwards acquired neutrophile granules. Non-granular cells multiplied in the germ centres of lymphoid tissue and finely and coarsely granular cells in the marrow, though possibly eosinophiles multiplied in either situation. Non-granular cells in large numbers were chiefly associated with subacute and chronic conditions, eosinophiles were attracted by special chemiotactic substances in relatively non-acute conditions, while the finely granular cells were chiefly concerned in acute bacterial infections. In inflammatory conditions non-granular cells acting as phagocytes were also derived from the larger lymphocytes of the blood and from certain cells, normally fixed or sessile, and it became impossible to assign the source of origin to any given example, though Professor Muir had studied their course of development in lymphatic glands. Further, the opinion was expressed that there were homologous, fixed or clasping cells which in inflammatory conditions became spherical in form and acted as phagocytes by a process of reversion to a more primitive type, but the converse did not hold good. On the return of the organism to a normal condition the large lymphocytes might dwindle in size and assume the appearances of the small inactive lymphocytes. The suggestion was advanced that in the mixed-celled leukæmias cells were present which represented the non-granular precursors of myelocytes that were seen in embryonic life and the possibility was raised that in some cases of lymphatic leukæmia the large lymphocytes might have been derived from the clasping cells of connective tissue.

Dr. J. M. BEATTIE (Edinburgh) was then called upon for his paper on

The Lymphocyte in Inflammatory Exudations,

in which he pointed out that much of the difficulty experienced in studying the mononuclear cells of inflammatory exudations was due to the use of stained preparations alone and might be avoided by observing the cell in its living condition on the warm stage and by the experimental study of its developmental history. Another difficulty consisted in the accumulation of various kinds of cells at the site of irritation in the early stages of inflammatory processes, many of which had migrated from distant parts, others being produced locally by proliferation of endothelial cells and fixed connective tissue cells. Dr. Beattie had confined his work chiefly to the investigation of the peritoneal fluid and omentum in acute peritonitis following experimental injections of bacilli coli and the more chronic conditions produced by bacilli tuberculosis. Referring to the lymphoid cells, he stated that these were present in the form of a sheath surrounding the vessels and were also collected in masses or nodules of varying size. In early stages of the inflammatory process the differentiation between lymphoid and endothelial cells was well marked. The source of these masses of lymphoid cells was still in dispute, but Dr. Beattie's experiments supported the views of Ribbert, who contended that they were produced locally from pre-existing lymphatic tissue, normally present though but little developed. The importance of the cytology of serous effusions to the clinician was remarked, although Dr. Beattie considered cerebro-spinal fluid or pleural fluid rich in lymphoid cells did not necessarily indicate tuberculosis but merely a condition of chronicity. In acute inflammatory exudations transition stages between the lymphocyte and large mononuclears were numerous, and he was distinctly of opinion that lymphoid cells did increase in size and the fact that so few transitional cells were present in the blood was explained by the assumption that they were formed in pre-existing lymphoid tissue outside the vessel and only a few were washed in by the overflow from lymphatic channels or possibly by migration. As to the function of these lymphoid cells, Dr. Beattie had never observed phagocytosis by the smaller forms, but the larger forms were undoubtedly phagocytic, and he explained the difference by assuming the smaller forms to be younger and less functionally active. Speaking of the clasmatocytes described by Ranvier he regarded them as derived from large mononuclear cells in a condition of active amœboid movement or from endothelial cells. Mononucleated phagocytes played an important part in the early stages of infection and in the later stages were almost the only cells present. With regard to the question of the formation of fibrous tissue by lymphocytes his observations were not sufficiently advanced to permit him to put forward definite opinions.

Dr. J. H. DRYSDALE (London) then read a paper on

The Clinical Significance of Lymphocytosis,

in which he confessed that he had under-estimated the difficulties of forming a just opinion of the clinical significance to be attached to the presence of a lymphocytosis. Defining lymphocytosis as an increase beyond the limits observed in health of the absolute number of lymphocytes in the circulating peripheral blood, he pointed out the advantage of eliminating by this definition all conditions in which there was merely decrease in the number of polymorphonuclear leucocytes, the lymphocytes remaining constant, and advocated returning all differential counts in absolute numbers per cubic millimetre. As a rough standard he counted 7500 leucocytes per cubic millimetre, made up of 5000 polymorphonuclears, 2000 lymphocytes, 350 large mononuclears, and 150 eosinophiles. Briefly discussing what may be termed the physiological lymphocytosis of early and of adult life he passed on to lymphocytosis associated with pathological conditions, confining his remarks chiefly to those conditions in which the lymphoid tissue was affected and in which the number of lymphocytes in the circulating blood was increased. Speaking of Hodgkin's disease which was variously regarded as the leukæmic stage of lymphatic leukæmia, lympho-sarcoma, and tuberculosis, Dr. Drysdale gave the result of his observation on 14 cases occurring in St. Bartholomew's Hospital—cases in which he had examined the lymphatic glands during life or had made a post-mortem examination. The degree of blood change was usually moderate in all. Six cases gave a total count of 6000 leucocytes or under, while six other cases gave 10,000 or over. Seven cases gave less than 5000 polymorphonuclears and seven cases gave over that number; seven cases gave under 2000 lymphocytes and in seven there were 2000 and over. When the numbers obtained were over the normal there was an absolute increase of polymorphonuclears and lymphocytes without alteration of the respective ratios; consequently he could not regard the blood changes as symptomatic. So also in lympho-sarcoma the lymphocytes might be greatly increased but usually the blood changes were trifling and negative. Lymphocytosis, when it did occur, afforded no conclusive information and in the majority of cases it was at present impossible to explain even tentatively an increased number of lymphocytes in the circulation.

Dr. W. C. MACCALLUM (Baltimore) then read a paper entitled

The Relation of the Lymphocyte to the Lesions of Typhoid Fever.

Referring first to the presence in typhoid fever of very large cells in the lymphoid structures of the intestine and mesentery to which the name "typhuszellen" had been applied, he pointed out that these had been described by some workers as swollen lymphoid cells become motile and phagocytic, and by others as proliferated and desquamated endothelial cells derived from the fixed cells lining the reticulum of lymph glands, &c., or even of the venous

channels—a proliferation due, according to Mallory, to the action of diffusible toxin. Examination of the blood during the height of the disease showed that there was undoubtedly a definite leukopenia due to a decrease in the polymorphonuclear leucocytes, whilst after an initial fall the relative and absolute numbers of lymphocytes were greatly increased. Dr. MacCallum's observations on the condition of the blood-forming organs in typhoid fever were chiefly based on the study of a fatal case of meningitis occurring during a typical attack of typhoid fever (from which a pure culture of the bacillus typhosus was obtained from the cerebro-spinal fluid drawn off during life by means of lumbar puncture), in the course of which it was found that in a simple tissue such as the pia, possessing normally but very little lymphoid tissue, infection with the typhoid bacillus would produce abundant appearance of lymphoid and allied cells in addition to other changes. Noting the uniform appearance and small size of the lymphoid cells in Peyer's patches he contrasted these with the large cells possessing similar nuclei found in considerable numbers in the lymphoid tissue of the intestine and incidentally mentioned that he had traced their development into very large cells indeed. In typhoid fever there was a distinct chemiotactic influence over the lymphocytes which responded by wandering out of the vessels and into the tissues which were exposed to the action of the toxin, and the increased demand was met by the increase and new formation of lymphoid cells in the bone marrow.

Dr. A. R. FERGUSON (Glasgow) read a paper on

The Relation of Lymphocytosis to Small-pox,

in which he showed that as a result of his study of the leucocytic changes occurring in the blood, and therefore reflected in varying degree by the different body tissues, there was (in variola) an excessive production of cells of the lymphocyte and smaller hyaline classes. These were found in very high proportions in the blood and in the skin; in fact, in the skin they formed a notable constituent of the exudation in the earlier stages of the eruption. In the blood, however, they reached their highest proportions, after the virus had presumably left the blood to enter the skin. These changes were accompanied by considerable activity of the lymphocyte-producing tissues throughout the body. According to Dr. Ferguson the subcortical lymphoid follicles of the lymphatic glands were chiefly concerned in the process, although the Malpighian bodies of the spleen also played a contributory part in producing the lymphocythæmia. Cells of the neutrophile class, on the contrary, underwent a progressive diminution relatively, any initial activity on the part of the bone marrow being soon replaced by a passive condition or even in severe cases by one in which all the leucoblastic elements were destroyed.

Dr. T. HOUSTON (Belfast) read a paper on

Lymphocytosis, with Special Reference to the Rôle of the Lymphocyte in Leukæmia,

in which support for the contention that all the cells of the lymphocyte groups, both typical lymphocytes and large mononuclear cells, had their origin in the lymphatic tissues generally was found in the fact that different types of lymphocytes were represented in some cases of lymphatic leukæmia, for the essential morbid change in this disease was excessive lymphatic proliferation. The large mononuclear cells so often represented in large numbers in cases of lymphatic leukæmia were regarded as undoubtedly amœboid and phagocytic and evidence was adduced that even lymphocytes proper possessed some degree of motility. Commenting on the clinical resemblance and similarity of the blood pictures of both spleno-medullary leukæmia and lymphatic leukæmia to septic processes Dr. Houston quoted first a case of acute sepsis and then a case of pneumonia in which the blood pictures closely simulated spleno-medullary leukæmia and lymphatic leukæmia respectively. It was also pointed out that sepsis might produce a leucocytosis which in the child was mainly a lymphocytosis and in the adult mainly a polymorphonuclear leucocytosis, and contrasted with the leukæmias which in early life were mainly of the lymphatic type, while those of the adult were characterised by an increase of the granular cells—myelocytes and polymorphonuclears. Referring to the cases of "mixed-celled" leukæmia which had been described by Wolff the comparatively common occurrence of mixed-celled leucocytosis in children was mentioned, Dr. Houston's observations confirming those of Wolff and others.

Dr. C. H. MELLAND (Manchester) read a paper on

The Lymphocyte in Leucocythæmia,

which was illustrated by an excellent series of coloured lantern slides. He pointed out that in the chronic lymphatic form of leucocythæmia the majority of the lymphocytes had the same character as normal small lymphocytes and doubtless originated in the lymphatic glands, in which there was evidence of increased proliferation; and also in the bone marrow, where the granular cells were replaced by lymphocytes. In acute leucocythæmia, on the other hand, the lymphocytes met with in the blood had very different characters, the cells were very much larger, the nuclei were round or oval, and the narrow zone of cytoplasm stained more or less deeply basophile. In spleno-medullary leucocythæmia large lymphocytes were present in considerably increased numbers in addition to the myelocytes with neutrophile granules. In Dr. Melland's opinion, there was a degradation in the character of the cells in the blood; the myelocyte was a less highly differentiated cell than the polynuclear neutrophile, and these large lymphocytes represented a further retrograde step. That this degradation might be progressive was evidenced by the fact that the blood picture of spleno-medullary leucocythæmia might be replaced by that of lymphatic leucocythæmia in the course of the disease, though the reverse condition had never been recorded.

Dr. T. GILLMAN MOORHEAD (Dublin) then communicated a

Preliminary Report on some Investigations into the Etiology of Leukæmia.

After briefly reviewing the parasitic theory of Löwitt and mentioning the hæmamœba leukæmiæ magna of that author, he referred to the inconstant occurrence of streptococci in the blood of leukæmia patients and then passed on to a discussion of the toxic theory which, however, was not necessarily antagonistic to the parasitic theory. The points in favour of the view that a toxin stood in etiological relationship to the disease were summed up: (1) many cases were preceded by some other disease which had lowered the general resistance of the organism; (2) inflammatory conditions of the mouth, stomach, and intestines frequently preceded or accompanied the disease; (3) peptones and uric acid could be found in the blood of leukæmia patients and said to be accompanied by excess of peptones in the spleen; (4) repeated injections of peptones caused continued leucocytosis in animals; (5) there was lowered coagulability of the blood; (6) evidence in the urine of increased breaking down of tissue, together with deficiency of metabolism; (7) the occurrence of capillary hæmorrhages; and (8) the occurrence of areas of necrosis in various tissues. As the result of the examination of 135 grammes weight of lymph glands obtained from a patient suffering from the lymphatic form of leukæmia, Dr. Moorhead after precipitation with alcohol was able to extract a substance with saline solution, a substance which produced a marked fall of blood pressure in rabbits. This depressor substance, as shown by control extracts from normal glands, was not a normal constituent of ordinary lymphoid tissue. The depressor substance was possibly a specific toxin because continuous injection of the extract containing it produced marked changes in the hæmopoietic tissues in rabbits—changes not confined to any one of those tissues but involving them all, and the rapid development of the changes was ascribed to the large quantities of toxin injected on each occasion.

One of the secretaries of the section then read a paper by Dr. F. G. BUSHNELL (Brighton) on

The Rôle of the Lymphocyte,

in which the belief was expressed that the large lymphocyte was younger than the small, that the granular myelocyte or marrow cell formed granular cells mainly, the lymphoid cell of adenoid tissue producing non-granular cells. Lymphocytosis was stated to be physiological in infants and young children, in pregnancy, lactation, and following digestion; it accompanied pathological conditions such as anæmia, leukæmia, sarcomatous growths, bacillary diseases, syphilis, &c.—in fact, it always occurred in conditions in which nutrition and metabolism were at an unusual balance, and in general terms lymphocytosis might be interpreted as indicating response to disturbances of lymphoid tissues by physiological or by toxic agencies. The paper then discussed the relationship of lymphocytosis to various pathological conditions, such as granulation tissue

formation and small round-celled sarcomata, the anæmias and leukæmias, the points being illustrated by a selected series of blood counts from typical cases.

On the conclusion of the day's sitting several highly interesting demonstrations were given. The first, by Dr. A. E. WRIGHT (London), consisted of a demonstration of the Preparation and Use of the Collecting and Measuring Pipettes (simple and "throttle") which he had introduced for blood estimations, serum examination, routine bacteriological work, &c. The second, by Dr. R. N. SALAMAN (London), was a demonstration of the Reservoir Action of the Nutmeg Liver in Cardiac Disease, illustrated by diagrams and three colour process lantern slides, adducing reasons for regarding the liver as a safety valve for the right heart which by continued use lost its value and shortened very greatly the field of cardiac response.—Dr. I. WALKER HALL (Manchester) then demonstrated the Methods of estimating Purin Bodies by Means of his Apparatus known as the Purinometer.

LARYNGOLOGY AND OTOLOGY.

WEDNESDAY, JULY 27TH.

This section met under the presidency of Mr. CHARTERS J. SYMONDS (London). A discussion on

The Treatment of Non-Suppurative Disease of the Middle Ear

was opened by Dr. URBAN PRITCHARD (London) and Dr. THOMAS BARR (Glasgow.)

Dr. PRITCHARD classified the conditions included under non-suppurative disease of the middle ear for the purpose of discussing the treatment into the following divisions: (1) acute non-suppurative otitis media; (2) early stages of chronic non-suppurative catarrh; (3) advanced stages of the same; (4) middle-ear adhesions the result of former acute inflammation; and (5) sclerosis resulting from disease of the bony capsules inclosing the internal ear and forming the inner wall of the tympanic cavity.

1. *Treatment of acute otitis media.*—In the earlier stages, he said, gentle, not forcible, politzerisation (not catheterisation) would often relieve the pain at once and tend to cut short the attack. Counter-irritation behind the ear was always most valuable and would often arrest the otitis and relieve the pain. Instillations were occasionally advisable and when used should be strong anodyne solutions—for example, cocaine or morphine in an antiseptic medium; glycerine of carbolic acid had been strongly recommended, also adrenalin with cocaine. Heat in the form of very hot fomentations or hot bran bags was very useful; leeches in front of, and below, the ear were valuable in very acute cases. Incision of the membrane was called for when there was marked bulging; the meatus must be purified and afterwards dressed antiseptically to avoid suppuration. Purgatives were nearly always necessary. Pharyngeal treatment was usually required but nasal douches or irrigations must absolutely be avoided. As regarded after-treatment, politzerisation should always be employed; it would restore the hearing and prevent adhesions. If adenoids were present they should be removed.

2. *Treatment of the early stages of chronic non-suppurative catarrh*, in which there was exudation into the mucous membrane and from its surface with resulting stenosis of the Eustachian tube and more or less fluid in the tympanic cavity. In this group of cases Dr. Pritchard said that politzerisation was preferable to catheterisation; it should be repeated at intervals of one, two, or three days according to the relief obtained, as ascertained by the amount of improvement in the hearing; it should not be continued when it increased the deafness. Incision of the membrane might be practised if there were much fluid in the tympanic cavity but this was practically a rare condition. Local medicinal treatment was most valuable; sterile alkaline nasal irrigation (e.g., borax and sodium bicarbonate) was to be preferred to the nasal douche, as the latter occasionally produced acute otitis; inhalations of pine oils, eucalyptus oil, or, still better, of fumes of ammonium chloride were most valuable. Climatic treatment was important; damp situations should be avoided and high, dry, and sunny positions should be selected; warm and well-drained seaside resorts were good, whereas cold, damp seashores with a northern aspect must be avoided. High sunny Alpine valleys were often very beneficial, but on rapidly descending from these Valsalva's inflation should be practised. Early and continued treatment of these stages of catarrh was most important and would often prevent the advanced stages.

3. *Treatment of advanced stages of middle-ear catarrh.*—This he considered was much less satisfactory on account of the adhesions causing retraction of the membrane and fixation of the membrane and ossicles. Catheterisation was often preferable to politzerisation, but the value of courses of repeated inflations had been much over-rated; patients, he said, should be warned against the constant recourse to Valsalva's method of inflation; at the same time, cautiously employed, it was of value. Gentle suction by means of Delstanche's masseur was occasionally of value but might easily be overdone. The Eustachian bougie had been over-valued; the objection to its use were, firstly, the risk of injury to the delicate ciliated mucous membrane; the narrow part of the tube being bony it could not be dilated except at the expense of this mucous membrane. Secondly, in advanced cases the loss of hearing power was almost always due to changes in the tympanic cavity and not in the Eustachian tube. Speaking of operations he said that all these up to the present had been futile in this particular group of cases. As regarded local medicinal treatment, nasal irrigations of sterile alkaline and saline solutions were of much value. Inhalations of the ammonium chloride fumes with cautious Valsalva's inflation to introduce them through the Eustachian tube formed a most valuable treatment, but long-continued use with intervals of rest was necessary. Injections through the Eustachian catheter were much employed by some surgeons and were occasionally of value, probably a sterile solution of sodium bicarbonate was the most efficacious. Speaking of internal medicinal treatment, he said that occasionally when the mucous membrane was glazed and dry small doses of potassium iodide with ammonia—so as to produce slight symptoms of coryza—combined with some form of inflation, would yield excellent results. Turkish baths were of value in some of the less advanced cases.

4. *The treatment of middle-ear adhesions of old standing.*—This he considered was most unsatisfactory; operative interference had up to the present signally failed though there might be a future for it. In fact, at present these cases only made the surgeon regret that active treatment was not adopted directly after the acute inflammation which resulted in the adhesion.

5. *Treatment of sclerosis.*—This he said was still more hopeless and in a pure case no treatment was of any avail—mechanical, medicinal, operative, and climatic treatment were alike useless. All that one could do was to use such treatment as would keep up the general health in the hope that thereby a tendency for the disease to become arrested would be established. Aurists had yet to learn whether the high-frequency electric treatment would yield any results. In conclusion, Dr. Pritchard said he knew of no condition in which treatment should be considered more judicially, avoiding hasty conclusions for or against any proposed treatment, and that they ought certainly not to judge harshly of over-enthusiastic *confrères* who might be unduly vaunting some new process, having been carried away by a few apparent successes.

Dr. THOMAS BARR limited himself to the non-exudative or dry forms of the disease, whatever their origin might have been. The problem to be dealt with, he said, was more difficult than in the exudative forms; there were usually changes and products in the middle ear which might have originated long before, sometimes during early childhood in acute inflammation, in simple exudative catarrh, or, worst of all, in gradual and scarcely perceptible changes of a dry nature from the beginning. The scientific character of the treatment was faulty because of the deficiency of knowledge of the anatomical changes existing in any given tympanum and efforts of treatment were on that account bound to be often empirical and to some extent experimental. The field of treatment was large but not proportionately fruitful. It was manipulative, operative, medicinal, hygienic, and climatic. Amidst the diversity of opinion regarding the value of the different methods, inflation in some form or other, but especially in the form of politzerisation, was probably practised by all otologists. In view of the fact that it was rarely possible to determine the precise conditions of the intra-tympanic structures in any given case one was not often justified in excluding the possibility of doing good until the test of treatment, especially the test of effective inflation, had been applied. Any increase in the deafness or in the intensity of the subjective sounds called for an immediate halt, whereas improvement, even although comparatively slight,

would encourage the continuance of these efforts. Inflation should not be practised too frequently, seldom more so than every second or third day; too prolonged treatment was bad; after three or four weeks there should be a pause of one, two, or three months, and in some cases short courses of such treatment might be required at intervals during the whole course of a person's life. Patients or friends could usually be taught to inflate efficiently, but then definite directions as to the frequency and duration of the treatment should be given with the warning that if any increase in the deafness or subjective sounds be observed the fact should be immediately reported. Valsalva's method of inflation, he considered, was rarely permissible because the patient was either unable to inflate his tympanum or did great mischief by unduly frequent repetition, so that it was not uncommon to find a patient repeating it before every interview, perhaps 20 or 30 times a day, and acquiring such dexterity that the act was scarcely perceived by the onlooker; the improvement in hearing in consequence became less and less, and shorter and shorter, with gradually increasing mischief to the function of the organ. Efforts to force vapours through the Eustachian tube into the tympanum were generally futile. Probably the best results were obtained by the sudden impact of air yielded by Politzer's method, and catheterisation was limited to the cases in which the introduction of solutions or vapours into the middle ear was indicated or where stricture existed in the Eustachian tube. Applications to the inside of the tube itself through the medium of the catheter were productive of good. Paroleine solutions of iodine, menthol, camphor, cocaine, and adrenalin might be introduced through the catheter with good effect by means of an atomiser in catarrhal swelling of the Eustachian tube. The treatment of organic stricture of the Eustachian tube was very unsatisfactory and an attempt to dilate forcibly such a stricture by means of some kind of bougie seldom led to a good result. In regard to the value of nasal treatment, he said that probably most otologists would approve of operating upon the naso-pharynx when post-nasal adenoids existed, without, however, expecting such brilliant results as in the case of the exudative catarrhs. There could be no doubt that nasal obstruction, especially when severe, tended to exercise an injurious influence upon the tympano-Eustachian apparatus. There was a good deal of agreement as to the propriety of operative or other treatment when there were hypertrophic changes in the nasal passages, but the existence of a small spur or knot on the septum, interfering very little or not at all with nasal breathing and producing no special tendency to catarrhal attack, should probably be ignored. There were cases in which intranasal operations had seemed to aggravate deafness, perhaps through nervous shock or from the entrance of blood into the Eustachian tube, while the nasal douche might in the absence of careful precautions be productive of much harm. The so-called pneumatic massage of the tympanum along with inflation was suitable; even in sclerosis it frequently allayed tinnitus. The use of friction with the aid of a stimulating ointment such as camphor, oil of peppermint, and vaseline, applied behind and below the ear in the form of a kind of massage, seemed often to be productive of good. Speaking of the value of operative treatment on the tympanic membrane and intra-tympanic structures, he said that with a narrow meatus many of such operations were well-nigh impossible, while in the absence of an exact knowledge of the pathological conditions in the tympanum the operator was in the position of one groping in the dark. An artificial perforation with a galvano-cautery might improve the hearing or relieve the tinnitus, if such an opening could be made permanent. In proceeding to the other and deeper operative measures there was a greater danger of injuring rather than of improving the hearing. Electrical treatment, he said, long in abeyance in aural therapeutics, had been again revived in the form of high-frequency currents. The results had been sufficiently encouraging to justify further trial, although no doubt the treatment was entirely empirical. Dr. Barr, in conclusion, offered suggestions for further investigation of the subject and considered that by a well-defined and pre-arranged plan of working it would be possible to determine the true value of individual methods of treatment.

In the general discussion which followed

Dr. ADOLPH BRONNER (Bradford) advocated constitutional as well as local treatment. He expressed himself opposed to the use of Politzer's bag on account of not being able to obtain by means of it uniformity of pressure. The practice of intrusting the use of the bag to patients he considered should be condemned. In the divergence of opinions as to nasal obstruction being a factor in the production of the varieties of deafness under discussion he thought there was room for charity and mutual concessions.

Dr. MARCEL NATIER (Paris) demonstrated a series of diagrams illustrating the treatment of deafness by means of tuning forks.

Dr. J. WALKER DOWNIE (Glasgow) recommended treatment of adhesions of ossicles by means of Valsalva's method as beneficial when gently applied; he also was in favour of a nebuliser in place of Politzer's bag. Speaking of the treatment by high-frequency currents, he said that out of a dozen cases which had been treated for him only one had improved after daily applications for 15 minutes extending over six months, a very serious tax upon the patient.

Mr. F. MARSH (Birmingham) advocated the removal of anything which interfered with free drainage and free air-way. He recommended oily injections. His experience of high-frequency currents was unfavourable and he had seen more harm than good from Valsalva's method.

Dr. W. MILLIGAN (Manchester) considered that otology should be made a compulsory subject in medical education. He spoke of the value of physiological rest in middle-ear catarrh. Seaside air he considered injurious but high altitudes beneficial. In sclerosis he had found iodide of potassium of value. Patients he had observed under treatment with high-frequency currents had become rather worse than better.

Dr. L. H. PEGLER (London), speaking with reference to the exudative variety, expressed himself in favour of leaving the fluid in the tympanic cavity to be absorbed and of not doing a paracentesis. Regarding the diagnosis it was often uncertain, the patient's condition being a mixed one. Allowance had to be made for the neurasthenic element in the tuning-fork test.

Dr. R. H. SCANES SPICER (London) spoke with reference to nasal obstruction as a factor in the etiology.

Dr. H. SMURTHWAITE (Newcastle) said that his experience had been similar to that of the previous speaker in the frequency of nasal obstruction as a factor in the deafness.

Dr. E. B. WAGGETT (London) was in favour of educating any hearing power that might be left and laid stress on the importance of differentiating a sclerotic condition of the middle ear at the first visit of the patient.

Dr. C. E. SHAW (Belfast) emphasised the necessity of early treatment. The vibration treatment he regarded as altogether useless.

Mr. C. H. FAGGE (London) considered that more definite knowledge of the pathology of the subject was required. He was also opposed to patients being intrusted with Politzer's bag.

Mr. G. W. HILL (London) spoke favourably of Delstanche's masseur for relieving tinnitus and improving the hearing.

Mr. A. J. BRADY (Sydney, N.S.W.), speaking of the value of operative measures, cited a case in which hearing was improved by removal of the drum and ossicles.

Dr. J. E. NEUCOMB (New York), speaking of treatment by electrolysis, said that the younger practitioners in New York had used it and had recorded good results but the senior men had left this form of treatment alone.

Dr. W. JOBSON HORNE (London) expressed the hope that early steps would be taken to adopt Dr. Barr's suggestions for the scientific investigation of the subject they had been discussing. It was now half a century since Toynbee so largely contributed to their knowledge and Dr. Horne thought he was not over-stating the matter in adding that during that interval but little had been done by means of scientific research to advance their knowledge of the non-exudative or dry forms of ear disease. He was aware of the obvious difficulties, but one case completely worked out would be of greater help than a mass of empirical and experimental treatment.

The PRESIDENT, summing up the discussion, endorsed Dr. Barr's suggestions.

The openers of the discussion replied.

TROPICAL DISEASES.

WEDNESDAY, JULY 27TH.

The President of the section, Dr. ALEXANDER CROMBIE,

C.B., Lieutenant-Colonel I.M.S. (retired), delivered an introductory address entitled

The Fallacy of Finality.

Referring to a paper on Indian Fevers which he had read at the Indian Medical Congress of 1894, Dr. Crombie stated that his attempt to differentiate certain fevers of the continued type had been freely criticised and he intended to refer to the subject again. Clinicians had been, on the whole, favourable to the view which he then took, but bacteriologists had been opposed to it. "Ague," according to Dr. Crombie, was not the most prevalent type of fever; according to his Indian experience the commonest type of fever was a "single paroxysm fever" of a few hours' or a few days' duration, but it was a single paroxysm and had no tendency to recur. If it lasted for a few hours only it was termed "ephemeral fever," if for a day or two "febricula," and if for several days "simple continued fever." In fever of this kind periodicity was wanting, the patients recovered without quinine, and malarial parasites were not present. Captain Leonard Rogers differed in this point, basing his argument upon mononuclear increase; but this increase had been shown to be present in other diseases besides malaria. An inquiry by Captain S. P. James led him to the conclusion that many cases admitted as malarial in Indian hospitals were not due to malaria, no malarial parasites being found in the blood. Mr. Arthur W. Powell bore similar testimony and it would seem that many of the cases of febricula and simple continued fever in India were non-malarial. The form of fever styled "non-malarial remittents" by Dr. Crombie and lasting in some cases six weeks was pronounced by the late Dr. Hughes and Dr. E. Charles to be Malta fever, but this contention had not been upheld. Kala-azar was also at one time thought to be Malta fever but this position had also proved false. At one stage of investigation it was held that every fever that was not malarial must be typhus, enteric, or Malta fever. The leucocyte count seemed quite recently in Captain Rogers's hands to settle the question and a fever showing an increase of the percentage of lymphocytes was held to indicate typhoid fever, and an increase of the large mononuclears malaria, but the increase of mononuclears had been found in blackwater fever, in the spotted fever of the Rocky Mountains, and in the fever associated with Leishman's bodies. In regard to non-malarial remittents being typhoid fever the laboratory evidence at their disposal consisted chiefly in the acceptation of Widal's reaction but this was a wholly inconclusive argument. A species of fever which ran a three or four weeks' course and was well known in India and which was usually asserted to be typhoid fever Dr. Crombie chose at one time to term "urban fever" as occurring for the most part in large towns; he was now inclined to regard it as a peculiar form of typhoid fever. There were several forms of enteric fever and to the India variety he would assign the name "bastard typhoid." The fallacy of finality was amply borne out and Dr. Crombie especially wished to sound a warning note concerning "the fallacy that every step made in advance is final, and that every part of medicine must be brought into line with it for the reason that there is nothing beyond."

Colonel DAVID BRUCE, F.R.S., R.A.M.C., opened the discussion on

Trypanosomiasis.

After referring to the state of knowledge at the meeting of the British Medical Association in 1903 and what they knew of trypanosomiasis and sleeping sickness now, Colonel Bruce stated that (1) the trypanosoma found in the blood of natives on the West Coast of Africa and in Uganda and those found in cases of sleeping sickness were identical; (2) the so-called trypanosoma fever was nothing but the first stage of sleeping sickness; (3) neither the native nor the European was immune to this disease; (4) the mortality in both coloured and uncoloured races was 100 per cent.; (5) up to the present no evidence had been brought forward to show that any of the lower animals took any important part in the spread of human trypanosomiasis; (6) human trypanosomiasis was conveyed from the sick to the healthy by means of a biting fly, the glossina palpalis; (7) several members of this genus were able to convey the virus from the sick to the healthy, thereby constituting a danger that this disease might spread into British East Africa and other tsetse fly zones; (8) there was no proof that other genera than glossina, such as stomoxys and tabanus, could convey this trypanosome; (9) there was no proof that trypanosoma Gambiense passed through any metamorphosis in glossina palpalis but that the transference of the parasites by this fly from one animal to another was purely mechanical; (10) all the stages of the development of the trypanosoma Gambiense took place in the human host according to present evidence—in other words, that the trypanosome did not absolutely depend upon the intermediate host for its continuance; and (11) to prevent sleeping sickness the movement of natives from sleeping sickness areas into any part of the country where any species of tsetse fly was found should be prevented as far as possible, and, again, the movement of healthy natives into sleeping sickness areas should be prevented where possible.

Dr. DAVID N. NABARRO (London) said that after Colonel Bruce left Uganda Captain E. D. W. Grieg and Dr. Nabarro himself immunised several monkeys against the blood and the cerebro-spinal fluid trypanosoma and found that the animals were then immune against the cerebro-spinal and the blood trypanosoma respectively, though not against the animal trypanosomata met with in Uganda. In regard to the conclusion come to by Colonel Bruce that "so-called trypanosoma fever is the first stage of sleeping sickness," Dr. Nabarro did not think that they were quite justified in going so far nor did he think it would always prove to be the case. The trypanosoma might disappear altogether from the peripheral blood of a patient, as it did in some monkeys and dogs experimented on. Cases of sleeping sickness in the pyrexial or so-called first stage of the disease suffered from remittent or intermittent fever, but the converse could not be maintained with certainty—viz., that trypanosoma fever was always the first stage of sleeping sickness. Man might possibly become immune after infection with trypanosoma, as in the case of monkeys and dogs and other animals. Concerning infection by lower animals, Dr. Nabarro said that there was a disease amongst oxen in Entebbe in Uganda associated with a trypanosome which if not identical with, yet closely resembled, the human trypanosoma and it was just possible that these oxen might serve as a subsidiary host in addition to infected natives whence the glossina palpalis obtained its supply of trypanosoma. This trypanosome became very scanty in the blood of sick oxen towards the end of life and in one case could not be demonstrated during the last six weeks of life even by the centrifuge. Dr. Nabarro also stated that several of the lower animals were susceptible to sleeping sickness by artificial inoculation although they did not suffer from undoubted sleeping sickness symptoms. Dissection of flies at varying intervals after a feed yielded interesting results which might be summarised as follows. The trypanosoma of sleeping sickness was actively motile in the stomach contents of the fly 71 hours after the feed; the trypanosoma found at Jinga lived 100 hours, the East African five and a half hours only, and the male 20 hours. In stomoxys the Jinga trypanosome was found active 24 hours, the East African 12 hours, and the male 30 hours after a feed.

Dr. CUTHBERT CHRISTY (London), Dr. J. EVERETT DUTTON (Birkenhead), and Dr. JOHN L. TODD communicated a paper on

Human Trypanosomiasis and its Relation to Congo Sleeping Sickness.

The paper was described as an abstract from the second progress report of the expedition of the Liverpool School of Tropical Medicine to the Congo, 1903. The full report was published in the Thompson-Yates and Johnston Laboratory Report for July, 1904. During the expedition the investigators found at the Leopoldville Hospital that out of 465 natives coming from all parts of the Upper Congo as well as the districts round Leopoldville 54 had trypanosomes in their blood. In the Gambia, on the other hand, out of 1043 natives examined six only were found with trypanosomes in their blood. Mild and severe types of sleeping sickness were met with but there was no well-defined demarcation between them, but for descriptive purpose they were grouped as (*A*) cases with no definite symptoms of illness; (*B*) cases with few symptoms; and (*C*) fatal cases showing well-marked symptoms, the most notable being fever, lassitude, weakness, and wasting. They subdivided group *C* into (*a*) fatal cases showing no sleep symptoms and (*b*) fatal cases showing sleep symptoms, and remarked that deep sleep, continued sleep, and lethargy—symptoms described as characteristic of sleeping sickness—were not features of the Congo disease. Although one epidemic of sleeping sickness was

recorded in the Congo district they did not meet with an epidemic of the disease during their investigations. The Congo type of case bore a close resemblance to some of the cases described by Bruce, Greig, and Nabarro on the Victoria Nyanza after the epidemic wave had passed that region. Concerning secondary infections and complications it was found that secondary bacterial infections seemed to determine the fatal issue of many cases of Congo sleeping sickness; the complications or obvious secondary infections met with were purulent meningitis, purulent pleurisy and pneumonia, pneumonia and localised tubercle of the lung, localised gangrene of the lung, enlarged caseating and breaking-down glands in the thorax and abdomen (no tuberculous lesions in the organs—tubercle bacillus in glands was seen in one case), dysenteric ulceration of the large bowel (perforation in one case), universally adherent pericardium (recent), and infiltration of pus in femoral, inguinal, and intestinal iliac glands (gonorrhœa). These observations corresponded with the lesions described as met with in Uganda. The authors further remarked (*a*) upon the periodicity and frequency of recurrence of the parasites in the peripheral blood; (*b*) the number of parasites appearing in the blood—in two cases a large increase was noted to occur during the few days immediately preceding death; (*c*) the sudden disappearance of the parasite from the finger blood; (*d*) the symptoms associated with the increase of the parasites in the blood—a rise of temperature was not necessarily associated with an increase of parasites in the blood and the number or constant presence of the parasites in the peripheral blood would seem to bear no relation to the severity of the disease; (*e*) the occurrence of parasites in serous fluids—in hydrocele fluid parasites were found; (*f*) the occurrence of the parasites in tissues and fluids after death—parasites were found in the pericardial, pleural, and peritoneal fluids when examined fresh; (*g*) animal experiments—rats, mice, guinea-pigs, rabbits, and monkeys were injected with human trypanosomes taken from cases of Congo sleeping sickness, both in its early and its latest phases (no animals inoculated with material in which trypanosomes were seen, taken post mortem from cases of trypanosomiasis, have ever become infected); and (*h*) transmission experiments—both in the Congo and Gambia the guinea-pig was, perhaps, the laboratory animal most susceptible to trypanosoma Gambiense.

Dr. CHRISTY read a paper upon

The Cerebro-spinal Fluid in Sleeping Sickness (Trypanosomiasis),

being part of the second progress report of the expedition from the Liverpool School of Tropical Medicine to the Congo, 1903, and published in the Thompson-Yates and Johnston Laboratory Report, August, 1904. Dr. Christy stated that 104 lumbar punctures were made. Of 64 cases operated on 54 were proved to be cases of sleeping sickness by the discovery of trypanosomes in the blood, the cerebro-spinal fluid, or the hydrocele fluid. Of the 54, parasites were found in 34 of them sooner or later in the cerebro-spinal fluid. In the Congo disease there appeared to be an endless variety of types. In most cases sleep was absent, in some dulness and apathy were prominent, in others nervous symptoms and mania were conspicuous, while a proportion of cases had only progressive emaciation and fever. The presence of parasites in the cerebro-spinal fluid apparently led to increase the gravity of the case and predisposed to new complications. Dr. Christy described in detail the best method of performing lumbar puncture.

Sir PATRICK MANSON (London) stated that Colonel Bruce's contention that the trypanosoma Gambiense was the cause of sleeping sickness was founded principally on an epidemiological basis. Experimental evidence was wanting, inasmuch as the small-celled organism associated with the perivascular spaces of the brain in cases of death from sleeping sickness was not found after any infection of animals yet reported. Colonel Bruce's epidemiological facts applied to only a very limited region and, as in the case of the suspected filaria perstans, it might be proved that trypanosomes did not correspond in their distribution with that of sleeping sickness. Quite recently it had been stated that in the territory at the south end of the Victoria Nyanza the entire population was infected with trypanosomes but sleeping sickness was unknown there. If this be true then the trypanosoma could not be the only cause or even a cause of sleeping sickness. The trypanosome would appear to be an element in the causation but the determining cause of the pathogenic condition was bacterial. A combination of Castellani's first and last etiological views would therefore seem to be the correct one. Sir Patrick Manson mentioned the case of a patient in whom all the clinical symptoms of trypanosomiasis were present and in whom trypanosomes were found in the blood who was now quite well, although it was three years since the illness declared itself.

Dr. LOUIS SAMBON (Naples) remarked that he could not regard the glossina to be merely a mechanical carrier of the disease trypanosomiasis. If this were so, how was it that other biting insects, such as the stomoxys and the tabanus, did not also convey the disease? The glossina would seem to be the intermediate host of the parasite.

Mr. H. F. CONYNGHAM (demonstrator at the London School of Tropical Medicine) read a paper entitled

A New Trematode of Man (Amphistomum Watsoni).

Mr. C. F. Watson sent to the London School of Tropical Medicine from North Nigeria six trematodes from the small intestine of a negro who had died from starvation and diarrhœa. This proved to be a species of amphistome totally unlike the gastrodiscus hominis (Lewis). Professor Blanchard of Paris had pronounced the trematode to be a new species. Post mortem the parasites were found in the duodenum and upper part of the jejunum and a few had reached the large intestine. The man was reported to be fond of raw meat. The animals were pear-shaped, flattened ventrally, and indented posteriorly at the margin of the posterior sucker. The anterior sucker was terminal and ventral. The genital pore lay about a quarter of the length of the parasite from the anterior end. The cuticle was ribbed transversely, especially on the ventral surface. The worms measured eight millimetres in length and five millimetres at the point of greatest breadth; the greatest thickness was about four millimetres. Ova as seen in the uterus measured 130μ by 75μ. The parasite was found in enormous numbers in the upper part of the small intestine and might have been the cause of death seeing that in some of the lower animals serious illnesses were occasioned by other species of the same genus.

Captain LEONARD ROGERS, I.M.S., contributed a paper on

The Treatment of Snake Bites.

The class of colubrine (including the sea snakes hydro-ophidæ) by their venom killed by paralysing the respiratory centres and to a less extent the motor end plates of especially the phrenics. The viperine class (including true vipers) caused by their venom a rapid failure of the circulation due to paralysis of the central vaso-motor centre in the medulla. Calmette's antivenin serum was only active against colubrine venoms. Experiments with the antivenin made by Burroughs, Wellcome, and Co. from cobra venom showed that when given subcutaneously it had little or no effect, but when given intravenously it acted well. Captain Rogers described the local treatment with permanganate of potassium. In his experiments he ligatured the limb above the seat of injection of the venom, an incision was then made into the seat of the injection, and solid crystals of permanganate of potassium were rubbed into the spot with sterile salt solution. Recoveries were the rule when the ligature was quickly applied above the part bitten and the lethal dose was not too large. This beneficient result was obtained in both colubrine and viperine poisons. The local use of the permanganate with, in the case of colubrine poison, antivenin injected intravenously, and in the case of viperine poison by adrenal extract injected subcutaneously, would appear to be encouraging methods of treating snake poisons.

Mr. ERNEST E. AUSTEN (Zoological Department of the British Museum) read a paper entitled

Supplementary Notes on the Tsetse Flies (Genus Glossina, Wiedemann).

In addition to the seven species of tsetse flies already known an eighth species had recently been described and named glossina Decorsei (Brumpt). The new species was obtained by Dr. Decorse from the banks of the River Shari and the shores of Lake Chad. It was believed that nagana was carried by five of these species. Mr. Austen described glossina palpalis, glossina pallicera, glossina morsitans, glossina tachinoides, glossina pallidipes, glossina longipalpis, glossina fusca, and glossina longipennis. Mr. Austen believed that, in addition to trypanosomiasis in its various forms, tsetse flies must play an important part in the dissemination of other diseases due to hæmatozoa. Brumpt stated that in certain districts on the Upper Congo a filariasis due to filaria volvulus was

very widely spread; the disease occurred only among the canoe-paddlers—i.e., among those who were most exposed to the bites of tsetse flies—and Brumpt wrote that the only cases hitherto observed had been in the regions (such as Nigeria and Dahomey) in which tsetse fly abounded.

Dr. CHRISTY, Dr. DUTTON, and Dr. TODD communicated a paper on

The Congo Floor Maggot, a Blood-sucking Dipterous Larva found in the Congo Free State.

This contribution was part of the report of the expedition from the Liverpool School of Tropical Medicine to the Congo, 1903. These maggots lived in the dust-filled cracks and crevices of the mud floors of native huts in the cataract regions of the Congo. Many of the larvæ found contained bright-red blood and they were most numerous where the natives slept on floor mats and there seemed no doubt that they bite at night. These larvæ were found at Leopoldville all over the Lutete and surrounding districts and they were reported from San Salvador in Portuguese territory, on the Congo at Matadi in the cataract region, and at Johumbiri, 150 miles above Stanley Pool. The flies met with in the huts and supposed to be developed from the floor maggots were submitted to Mr. Austen of the British Museum who recognised them as specimens of Auchmeronigia luteola Fabr (a species of the family muscidæ). The relationship of the floor maggot to the Auchmeronigia luteola had not been established and the possibility of the maggot being a means of diffusing trypanosomiasis was merely suggested.

Mr. T. J. TONKIN (Yapton) remarked that in the town of Kano in Northern Nigeria his servant proceeded to clear out the cracks on the part of the floor on which he was about to spread his sleeping mat. The reason for this precaution he was told was because a biting insect lived in the cracks and a specimen was shown him which in all points resembled that described by Dr. Christy.

Dr. D. E. ANDERSON (Paris) also took part in the discussion.

DENTAL SURGERY.

WEDNESDAY, JULY 27TH.

Mr. E. A. BEVERS (Mayor of Oxford) read

The Presidential Address.

He congratulated his dental colleagues on obtaining a dental section at the annual meeting of the Association. He referred to the progress which dental surgery had made—progress which on the whole had been slow but sure but which had every now and then been marked by distinct advances, one of which he considered they were taking part in that day, because by the formation of that section dentistry had taken its proper place in the fold of medicine. The influence of the section would be to encourage a broadening of their views and also to permit medical men to know more about the aims and claims of dentistry. Reference was made to the divergent views which were held on the question of education and an appeal was made to support those who believed in broadening the general portion of the curriculum. The claims made by American dentistry he ridiculed and pointed out that dentistry was catholic—the science was the same in whatever country it was practised—and that there could therefore be no such thing as a system special to one country.

Dr. W. HUNTER (London) opened a discussion on

Oral Sepsis in Relation to Disease.

He referred to the interest that he had taken in the subject, especially in relation to pernicious anæmia. Medical men took infinite precautions to protect the body against pyogenic affections but neglected the mouth as a source of infection. He was happy, however, to note that increasing attention was now being given to the subject. Much, however, remained to be done, as even in the most recent text-books no mention could be found of the influence of morbid conditions of the teeth and adjacent tissues on general health. The main trouble arose not so much from the presence of carious cavities in the teeth as from suppurative conditions of the periodontal membrane. Of the local effects of oral sepsis the first to claim attention were gingivitis and the various forms of stomatitis. Tonsillitis, too, he had found to be most severe in type when associated with septic teeth, and in his opinion in cases of throat affections occurring in scarlet fever patients a septic state of the mouth very considerably aggravated the throat trouble. Adenitis was frequently associated with carious teeth, as were otitis media, naso-pharyngeal suppuration, and antral disease. Passing to the stomach, he had had under observation cases of septic gastritis due to streptococcal infection in which there was the foulest oral sepsis. A similar condition of the mouth he had met with in cases of septic enteritis and ulcerative colitis. In cases of typhoid fever he had performed 50 post-mortem examinations where perforation had occurred and he was of opinion that the perforation was always due to some superadded inflammation and more than possibly traceable to infection from the mouth. He thought there was reason to believe that oral sepsis was at times the focus of infection in cases of malignant endocarditis, purpuric hæmorrhage, and nephritis. Two distinct types of anæmia he had found associated with oral sepsis: (1) septic anæmia, in which there was an absence of hæmolysis, and (2) pernicious anæmia, in which there was marked hæmolysis accompanied by intense bone-marrow changes.

Mr. KENNETH W. GOADBY (London) read a short note on

The Pathology of Oral Sepsis.

Oral sepsis, he said, was a very wide term and embraced such different conditions as ordinary dental disease and a generalised stomatitis of whatsoever cause. It was therefore essential to make some sort of selection and the particular chronic diseases of the alveolus had been selected. Three chief varieties of this particular section of oral pathology might be cited as having certain clinical signs as well as some difference in their bacteriology, which allowed a preliminary classification. They were: 1. Gingivitis. This was a general or local inflammation of the margins of the gums about the teeth, not involving the alveolus or alveolar-dental periosteum. This condition was accompanied by some smell of the breath, but little or no pain. 2. Progressive periodontitis. This was a chronic inflammation of the whole of the gum and mucous membrane covering the alveolus or an atrophic condition with atrophy of the tooth sockets. There were formation of distinct gum-pockets and infection of the alveolar-dental periosteum, without definite affection of the alveolus itself, accompanied by considerable quantities of pus, either thin and filled with débris or thick and viscous. There were usually a sweetish smell of the breath and infection of the mucou glands on the inner surface of the cheek at points corresponding to the greatest amount of inflammation; there was frequently localised as well as general neuralgic pain. 3. Subacute alveolar osteitis. This was a well-marked infection of the bone in the form of rarefying osteitis often spreading to the antrum, with much granulation tissue in the sockets of the teeth and deposits of semi-cartilaginous nature on the roots of the teeth; pain was common; there was frequent exacerbation of disease around individual teeth with dento-alveolar abscess. Sinuses formed, running into the compact bone. They were often associated with chronic pharyngitis and other throat diseases. The bacteriology of the disease was as follows: 1. Gingivitis. The largest variety of bacteria were found in this condition; almost all morphological forms were to be seen on making coverslip preparations. The following might be noted: staphylococci, sarcinæ, spirilla, comma-shaped bacilli, long curved rods, short thick bacilli, long pointed bacilli, and fine threads. 2. Progressive periodontitis. (*a*) Rods 4μ to 6μ long, 0·75μ wide, associated in masses. (*b*) Threads 10μ to 20μ long, many showing a beaded appearance, with large, darkly-stained dots, similar to staining of diphtheria bacillus by Neisser. The threads were, however, much longer and thicker and stained with aniline and gentian-violet. (*c*) Irregularly twisted filaments, with occasional branching. (*d*) Thick-jointed rods, sometimes giving granulose reaction. Cocci were generally found but the spirilla and comma-shaped forms, with the exception of spirochætal, were reduced in numbers. 3. Subacute alveolar osteitis. (*a*) Generally appearance of fragmented mycelium, which might stain by Gram's method. (*b*) Thick bacilli with pointed ends, the bases of the two being in apposition, not unlike gigantic sheath-forms of diphtheria bacillus. (*c*) Bacilli of diphtheria-like form (short), associated with cocci in the depths of the sockets of the teeth. Comma and spirillum forms were generally absent in this last process; although they were often increased in various forms of stomatitis they were not related to any one condition. They might be found in the throat in diphtheria, enteric fever, &c. The recent suggestion of Wright that these spirilla were a variety of trypanosome, on account of their staining reaction, was

inadmissible; other bacteria also stained in the same way with the reagents used. It was thought that by inoculating pus obtained from the above diseases directly into animals some idea of the pathogenic organisms present (if any) would be obtained. The animals were inoculated subcutaneously, intraperitoneally, and intravenously. The results of these experiments were given as a preliminary report. One of the cases scheduled above was a case of pemphigus associated with acute oral sepsis. A pure culture of a bacillus was obtained from the blood drawn from the right median basilic vein. A similar bacillus was isolated from the mouth. The curious slow tissue necrosis found in some of the animals inoculated was interesting in view of the incidence of healed gastric ulcer, especially as Hemmeter remarked that "in gastric ulcer there is another kind of infection which is not accompanied by the signs of acute inflammation and is termed bacterial necrosis by some authors." The fact that many cases of oral sepsis rapidly improved with the improvement of some general disease—such, for instance, as the oral inflammation present in sprue—did not preclude by any means the mouth disease from sharing in the production of the other symptoms. It was difficult perhaps to understand the marked degree of immunity possessed by many individuals against oral sepsis, but yet many of these did ultimately exhibit evidences of chronic toxæmia; at the same time, it was difficult also to explain the mechanism of relapse in acute fevers, as well as accidental death during active immunisation of animals, with the modern conceptions of immunity. It might be concluded from a general survey of the facts touched upon (1) that a certain degree of virulence might be possessed by an organism living an apparently saprophytic existence in the mouth; (2) that inflammatory conditions had the effect of increasing the number of species as well as the total number of bacteria present; (3) that a sort of selection apparently took place but whether due to symbiosis or not it was difficult to say; (4) that mouth bacteria did at times gain access to the general blood stream; and (5) that finally the potentiality for disease of oral sepsis received considerable support from even a preliminary survey of its bacteria, perhaps pointing to its operation in even a wider rôle than was at present credited or admitted.

Mr. RICKMAN J. GODLEE (London) read a short paper on

Oral Sepsis in Relation to Surgery.

He considered it would be interesting to investigate the direct effect of toxic matter from the mouth on wounds. There was every chance of surgeons with septic conditions of the mouth infecting patients, as in the act of speaking a slight expectoration of saliva was often unavoidable. He would therefore say to surgeons, examine your mouth for the sake of your patients. The presence of oral sepsis in domestic animals was overlooked and he characterised the habit of kissing dogs as dangerous. The improvement in the results of operation on the mouth was to be attributed largely to the care now taken to render the mouth as aseptic as possible before operating and he impressed on all surgeons the necessity for carrying out this mouth hygiene. Tuberculous glands were often traceable to septic teeth and although there was a disposition on the part of some dental surgeons to retain a suspicious tooth from an æsthetic point of view, he thought that all such teeth should be removed, for a beautiful jaw was not much good if it surmounted a scarred neck. Reference was made to the severe condition occasionally following dento-alveolar abscess and a case was cited of extensive necrosis of the mandible following the removal of a molar tooth. In all operations on the alimentary track the mouth should be submitted to rigid treatment previously to operation.

Dr. DALTON spoke of some cases of malignant anæmia he had met with associated with oral sepsis. He discussed the question whether the anæmia was due to the sepsis or *vice versâ* under three heads: (1) priority of oral sepsis or anæmia; (2) whether the anæmia passed away with removal of the teeth; and (3) why septic mouths produced anæmia and similar conditions of the pleura and other cavities did not. He seemed to incline to the view that the anæmia was traceable, at any rate in some cases, to the oral sepsis.

Dr. STCLAIR THOMSON (London) said that he always refused to operate on the throat until the nose and teeth had been placed in order. With reference to the amount of pus that was swallowed in cases of oral sepsis he thought an idea could be gained from a case recently under his care. He operated for suppurative tonsillitis. The patient was properly prepared for operation; no blood was swallowed but vomiting took place from the anæsthetic and two tablespoonfuls of pus were brought up. This must have been swallowed during the night, roughly a period of 12 hours.

Dr. HERBERT TILLEY (London) quoted two cases of severe mental depression in which the symptoms completely disappeared after the treatment of antral suppuration.

Mr. J. G. TURNER (London) approached the question from a clinical point of view. He remarked on the extreme frequency of the condition and said that early stages were often overlooked. It was not an easy thing to treat such a condition and no mouth could be considered healthy until every pocket was free from suppuration. With regard to the question of immunity to the results of oral sepsis he thought that the absorption of small doses produced an acquired immunity but that was not health; such a condition could not last and sooner or later a complete breakdown occurred. A case lately under his care illustrated this point. With regard to the local immunity the granulation tissue in the sockets resisted the invasion of the organisms but if that tissue were injured infection followed. Clinical experience, he thought, pointed that way.

Mr. NORMAN BENNETT (London) spoke of a case in which a girl, aged 16 years, had been the subject of fainting fits. The attacks varied in frequency, at times several occurring in a day; they took the form of unconsciousness, with rigidity, groaning, and movements of the limbs. The septic condition of her mouth was treated and the fainting attacks ceased. The cases pointed, he thought, to an obscure general condition arising from the local mouth lesion.

Dr. GOODALL (London), Professor J. ARKÖVY (Budapest), Mr. E. LLOYD-WILLIAMS (London), and Mr. W. HERN (London) also took part in the discussion.

THURSDAY, JULY 28TH.

Mr. J. ACKLAND read for Mr. W. H. BATTLE (London) a short account of

A Case of Melanotic Alveolar Sarcoma

of the anterior part of the maxilla in a child, three months of age. The tumour was removed in July, 1902, and now (July, 1904) the patient was quite free from recurrence.

Professor ARKVOY read a paper on

Caries Alveolaris Specifica or Pyorrhœa Alveolaris.

He referred to one special form. The alveolar condition was accompanied by abscesses which were cavities larger than the usual circumscribed abscess and contained often no pus. Fever might be present, lasting for a week if pus was present, though if present it was only in small quantities. The pulp of the teeth might be alive but was inflamed. The pyorrhœic process was at times so acute that all the teeth were loosened in a few weeks. There were also "uratic blisters" on the gums but these were not products of acute sepsis but probably gouty.

Mr. TURNER had seen the large abscesses in their chronic state but not the complexity of symptoms described by Professor Arkövy.

Mr. P. SYDNEY SPOKES (London) asked if the uratic blisters were not analogous to chalk-stones.

Mr. GOADBY knew the abscesses and described one which led to thrombosis of the facial vein and death. He thought the acute process was due to superinfection and symbiosis inducing special virulence.

Mr. W. A. MAGGS (London) thought the pain a constitutional disturbance and unilateral distribution pointed to the uratic blisters being herpetic.

Mr. SPOKES read a paper on

The Care of Children's Mouths.

The examination of 10,000 school children of an average age of 12 years showed that only 15 per cent. had sound teeth and it was safe to say that decay of the teeth occurred to a larger extent than any other departure from the normal physiological standard. It was difficult not to believe that the condition met with in a systematic examination of the mouths of such children, as yet untreated, must have some prejudicial effect, and that it resulted in a lower nutrition than might be otherwise attained if the teeth were sound and mastication was thoroughly performed. A large proportion of such children were not able to deal with food efficiently, either from actual loss of masticating surfaces or because of tenderness or actual pain upon pressure. Again, when a child was attacked by some infective or constitutional disease was it not reasonable to suppose that the resistance

of the organism might be greater had nutrition, aided by thorough mastication and insalivation, been maintained at its highest possible level? Further, there appeared reason to think that the mouth itself with broken-down teeth and septic pulp chambers might be the spot in which the infective material was cultivated, and that whereas in a healthy mouth pathogenic organisms might meet with a peaceful end, in the diseased mouth propagation was provided for and a larger dose was prepared for entrance to the body by the lungs, stomach, or lymphatics. At the least they might say that any departure from the normal was a matter of significance and that septic teeth might be a predisposing cause of other diseases. Failing complete prophylaxis, a great deal might be done to prevent loss of teeth by a systematic inspection three or four times a year with dental mirror and probe throughout school life. If commencing decay was found it should be promptly dealt with by "stopping" and at such a stage this could be done with a minimum amount of trouble to both patient and operator. The teeth of the deciduous series should be preserved in this way until their successors were ready to take their place. But when, on examination, it was found that deciduous teeth had been allowed to decay so far as to become necrosed and septic they should be removed in order to secure a healthy mouth.

Mr. TURNER read a paper on

The Influence of the Growth of Bone on the Positions of the Teeth.

Too little attention was paid to the influence of the growth of bone in producing the normal arrangement of the dental arch. The six front teeth, both permanent and deciduous, though developed in a definite but crowded arrangement, eventually took up positions in a regular arch. The three permanent molars developed one after the other—the upper with their occluding surfaces facing backwards, the lower forwards and upwards; all eventually assumed vertical positions in the dental arch. The anterior deciduous teeth, at first in apposition, by about the end of the fifth year are separated by as much as one-eighth of an inch. All these movements were due to growth of bone which carried the teeth with it. When, as in naso-pharyngeal obstruction with adenoids, growth was arrested or delayed, the teeth also failed to get moved into their normal positions. Models illustrating these cases showed that in children the normal spacing of the front teeth failed; that the permanent molars were erupted in too narrow an arch, while if the obstruction were removed or "outgrown" the molar next erupted came in a wider arch, due to increased lateral growth of the maxilla, but the parts in front were left in their deformed state, since the time for their growth had passed; and that "open bite" was in some cases due to deficient vertical growth of the anterior part of the maxilla. The front teeth were often found fixed in a more or less fœtal position, recalling the crowded position of development. All these deformities were easily explained as due to arrested or delayed growth of bone. Examples of unrestrained growth of bone were seen in the way in which a second maxillary molar moved forward after extraction of a first permanent molar and a second mandibular præmolar *backward* after extraction of the lower first molar. Deformities of the dental arch were valuable indications of deficient growth of the maxilla and adenoids might often be suspected, especially when in children the deciduous front teeth failed to "space" themselves.

In the discussion which followed Mr. H. BALDWIN (London), Dr. J. SIM WALLACE (London), and Mr. W. A. MAGGS took part.

Dr. WALLACE read a paper on

The Teeth in Relation to Physical Degeneration.

Attention was given to a consideration of the harmful effects of diseased states of the teeth on general physical development, but still greater stress was laid on the present-day craze for feeding children with highly refined assimilable and soft foods. Dr. Wallace enforced his arguments by referring to the fact that, notwithstanding general amelioration on account of improved sanitation, &c., these very diseases which originated in the nutritious pap system of feeding children had largely increased. Under this category were mentioned dental caries, indigestion, constipation, and consequent fermentation of food in the intestine often leading to fatal diarrhœa, appendicitis, neurasthenia, adenoids, anæmia, and rickets. He insisted on the fact that the alimentary canal had through countless generations become adapted for the extraction of nutriment from relatively innutritious matter, while the present-day belief "would appear to be to take in nutriment at the mouth and by the aid of pills render the intestine capable of extracting excrement from it." He considered that food should be of such consistency as to stimulate mastication and should contain sufficient innutritious matter to cause regular daily evacuation of the bowel. For this purpose he advocated the products of the kitchen garden and orchard rather than the products of pastry cooks, confectioners, and proprietary food manufacturers.

THE NATURE AND ETIOLOGY OF CANCER.

At the conversazione given by the Vice-Chancellor and the members of the University two interesting demonstrations with regard to the nature and etiology of cancer were given, the first by Mr. C. E. WALKER and the second by Dr. W. FORD ROBERTSON and Mr. H. WADE. Both demonstrations were illustrated by lantern slides.

(1) MALIGNANT GROWTHS IN MAN AND NORMAL REPRODUCTIVE TISSUES.

Mr. WALKER dealt with the researches carried out by himself in conjunction with Professor J. B. Farmer and Mr. J. E. S. Moore, the results of which were communicated to the Royal Society on Dec. 10th, 1903, and the main points of which were published in THE LANCET of Dec. 26th, 1903, p. 1830. Mr. Walker recapitulated these points as follows:—

The Methods of Division of Somatic and of Reproductive Tissue Cells.

The value of the deductions to be made depended to a great extent upon the differences between the manner in which the somatic cells—the cells forming the ordinary tissues of the body—and those which were destined to form reproductive tissue divided. To emphasise the similarity existing between malignant tissue and the normal tissues of the sexual reproductive glands it was proposed to introduce the term "gametoid" to express the former and "gametogenic" the latter. When the egg of an animal or plant segmented so as to give rise to an organism the nuclei of

FIG. 1.

Diagram of a somatic division, showing the split chromosomes, the halves of which form the daughter nuclei. The full number of the chromosomes is not shown.

all the cells were found, when dividing, to contain a definite number of rod-like bodies known as chromosomes, this number remaining constant throughout subsequent divisions. Besides remaining constant in number, however, the

chromosomes passed through a very definite series of evolutionary changes. At first the material out of which the chromosomes originated appeared as granules of stainable substance (chromatin). Then, after certain characteristic stages, this substance took the form of chromosomes, of which the number proper to each animal or plant was constant. During the process of division each of these chromosomes split longitudinally into two daughter chromosomes which at that period were arranged in a very definite manner upon the spindle, frequently appearing as V's with the apices towards its axis (Fig. 1). The daughter nuclei were formed by the distribution to either pole of the spindle of the respective halves of each original chromosome. The nuclei thus formed might now enter upon a period of rest. Whenever new *somatic* cells were formed in the body the nuclei passed through identically similar phases. But in every individual there were certain cells which eventually gave rise to the gametogenic elements, not to the specialised somatic tissues. Such cells, whether they appeared early in embryonic life, or later during the life of the individual, always presented very marked difference in their mode of division and in their subsequent history. These differences first became apparent as the cell commenced its preparation for division. Those cells which were about to produce the gametogenic elements presented a highly peculiar appearance, and at a definite stage in the multiplication passed through a cycle of changes wholly different from that passed through by the cells of the surrounding tissue and also from the changes occurring in those cells from which they themselves had sprung.

To the particular form of division (mitosis) associated with this metamorphosis the term "heterotype" had been applied and it was a characteristic and interpolated stage in the reproductive cycle of all sexually propagating animals and plants. Cells from which the heterotypically dividing elements would finally emerge could often be distinguished from those which would produce somatic tissues. In the testis of a mammal or in the sporogenous tissue of a stamen the existence of these cells might be recognised with ease and certainty. They continued to multiply and though differing from the adjacent cells in many respects resembled them in their mode of division until they passed severally into that peculiar state of growth that ushered in the heterotype division. The essential features in which this heterotype mitosis differed from the somatic mitosis (that of the cells forming the soma or body of the plant or animal), as well as from those in the cell generations of the reproductive tissues that had preceded it, were as follows: 1. A period of rest and growth. 2. The chromosomes when they were formed from the resting nucleus were present in only half the number of those occurring in the rest of the dividing nuclei of the organism. 3. The forms exhibited by the chromosomes were strikingly different from those of other nuclei. They presented figures resembling loops, rings, aggregations of four beads, and so on. 4. They were arranged longitudinally upon the spindle. Their division on the spindle was apparently always transverse and not longitudinal, for even in examples where the separation might be interpreted as longitudinal fission the process as actually passed through differed markedly from the ordinary longitudinal fission exhibited by the chromosomes of every other mitosis. It would thus be seen that the heterotype mitosis was an easily recognisable phase in the history of the development of the gametogenic cells.

It was a fact of the highest importance that when once heterotype division had supervened all the descendants of that cell in normal cases retained the reduced number of chromosomes, the cycle closing with the formation of the definite sexual cells. It was on the fusion of two of these cells (ovum and spermatozoon) that the double number of chromosomes was restored, and this number was characteristic of the fertilised egg and of all the cells to which it gave rise until the heterotype mitosis again supervened in the gametogenic tissues.

The Resemblances between the Growth of Malignant Tissue Cells in Man and those of Reproductive Tissue.

A systematic investigation of the cytological features of malignant growths in man had revealed the existence of a surprising degree of similarity between the phases that characteristically recurred in these growths and the transformations from somatic into reproductive cells as just described. Thus in a typical example of epithelioma they found that in the early stages of proliferation of the Malpighian layer the cells of the invading tissue at first passed through a cycle of somatic divisions, exactly as occurred during the early stages of the formation of normal gametogenic tissue. As cell multiplication proceeded, however, a change passed over the cells themselves. The protoplasmic continuity, to which their "prickly" character was due, became obliterated and the cells assumed that appearance of indifferent germ tissue so well known as a feature of the elements of which malignant growths were largely made up. Besides this a varying number of cells were observed, often situated in an ill-defined zone behind the growing edge of the advancing neoplasm, which had attained somewhat large dimensions. Each contained a nucleus which had grown to a considerable size. In those which had entered upon a prophase of division it was recognised that

FIG. 2.

Diagram of a heterotypical division, showing the characteristic rings and loops which split transversely to form the daughter elements. As in the former figure the full number of chromosomes is not shown.

the chromosomes instead of appearing as delicate thin rods or V's split longitudinally, presented the appearance of short, thickened loops or rings, closely resembling the later prophase stages of the heterotype mitosis in the normal gametogenic tissues. Still more significant was the fact that in these cells the number of the chromosomes was obviously less than in the normal somatic cells or the surrounding tissues. In many cases it was determined that the numbers were approximately halved; and furthermore, it was clear that the loops and rings characteristic of this stage of the cellular development of malignant growths were arranged lengthways on the spindle and so were ultimately divided transversely, exactly as in the corresponding heterotype mitosis of the reproductive elements. Subsequent divisions appeared to resemble the somatic form but retained the reduced number of chromosomes (homotype division). The cells were in *no sense embryonic in character*, though they had so frequently been described as such in the past. Embryonic cells had the potentiality of the full normal number of chromosomes and exhibited them when in process of division. It was thus pointed out that in a most important respect the various malignant tumours presented certain common features, and that these features were similar to those observed in the normal process of differentiation of reproductive cells. They felt themselves justified in deliberately correlating the appearance of these malignant growths with the result of a stimulus which had changed the course of somatic cell development into that characteristic of gametogenic tissue. They looked upon this transformation as representing the immediate cause of the malignancy of the

growths in which they were found. The remote causes must be sought amongst those various physiological stimuli —occasioned, e.g., by continual irritation—known to favour their development. They also considered that malignant growths were definitely distinguishable from benign tumours, for in the latter they had not succeeded in discovering anything resembling the very characteristic nuclear changes described above.

Dr. W. FORD ROBERTSON and Mr. HENRY WADE showed microscopical preparations illustrating some of the results of an investigation into the Etiology of Carcinoma, carried out chiefly with the aid of metallic histological methods.

(2) CANCER AND PLASMODIOPHORÆ.

History and Technology.

Dr. Robertson said that they had undertaken the investigation with the object of testing the hypothesis, so strongly advocated by Roswel Park, Gaylord, and others in America, that carcinomatous tumours were due to the presence of an organism of the same nature as the plasmodiophora brassicæ, which was known to be the cause of certain tumours occurring especially in cruciferous plants. These vegetable tumours were commonly referred to as "finger and toe disease," "club-root," or "kohlhernie." Their own observations seemed to prove that minute plasmodiophoræ were indeed present in carcinomatous tumours and that they could be grown from such tumours through a definite stage in their life cycle. The plasmodiophora brassicæ had been first described by Woronin in 1878. The account of its developmental cycle which he had then given remained, with unimportant modifications, the one that was still accepted as accurate. According to this description the organism in the spore stage fell into the ground with the decay of the plant which formed its host and lay dormant until the spring or early summer. From each spore there then developed an amœboid swarm cell which might find its way along the root hairs of a young plant into certain cells. Here it multiplied rapidly and at the same time induced excessive proliferation of the cells in which it lived. After a time several of the amœboid cells united to form a plasmodial mass and within this spores were developed. Plasmodiophoræ were extremely difficult to stain satisfactorily. The ordinary histological methods were practically useless for the purpose of revealing their presence. They had found that certain metallic processes, more particularly the ammonio-silver method followed by toning with gold (see *Review of Neurology and Psychiatry*, July, 1904), were specially suitable for the demonstration of the organism in the vegetable tumours.

The Life Cycle of the Parasite.

With the aid chiefly of these methods they had been able to determine that two important stages in the developmental cycle of the plasmodiophora brassicæ had apparently passed unobserved. One was a rapidly proliferative stage which occurred between the plasmodium and the spore and presented two phases. The other had its place between the spore and the swarm cell, and presented several phases. The recognition of the existence of these two stages was of the utmost importance for the investigation they had undertaken because the first was evidently the one in which the organism chiefly stimulated the cells of the host to abnormal proliferation, whilst the second was the only one through which the organism could, it seemed, be grown in culture media. Had the American investigators referred to been aware of the existence of these stages they would probably by this time have established the accuracy of their hypothesis. A pre-spore, spore, pre-amœboid, amœboid or swarm cell, and a plasmodial stage were recognised. In the first phase of the pre-spore stage the organism in the silver-gold preparations had a prominent nucleus and a faintly coloured delicate cell-body, limited in optical section by a thin line. In the second phase the organism had increased slightly in size and assumed a round form; the nucleus was less prominent. This phase of the pre-spore stage passed gradually into the spore which appeared in the silver-gold preparations as a hyaline sphere, frequently presenting a central crimson spot. This was evidently the form in which the organism lay dormant in the ground during the winter. The immediately succeeding pre-amœboid phases had been observed in a vegetable tumour that had been incubated. The hyaline spore became granular and a central nuclear body made its appearance. This granular spore, as seen lying in the cell of the host, was surrounded at some little distance by a delicate capsule formed from the surrounding tissues. The granules gradually increased in size until they took the form of a number of bodies resembling micrococci or short bacilli. These further enlarged into spherical bodies with a sharply defined border. They proliferated rapidly and still further increased in size. The development could not be traced beyond this point in the incubated vegetable tumour, but the observations of Woronin, Gaylord, and others justified the conclusion that these spherical bodies ultimately became the amœboid swarm cells.

Similar Bodies found in Carcinoma.

In carcinomata they had been able to observe bodies which, in their form and in their reaction to the metallic processes employed, were identical with the plasmodiophora brassicæ in its pre-spore, spore, pre-amœboid, and amœboid stages. They differed from the plasmodiophora brassicæ only in being from one-tenth to one-twentieth of the size. They also appeared less numerous, a fact which could be accounted for by the comparatively rapid proliferation of the animal cells. The bodies corresponding to the pre-spore forms occurred chiefly in the protoplasm of the epithelial cells. The spores were mainly, but not exclusively, intra-nuclear. In their hyaline phase they could not be distinguished from a nucleolus, but when the granular phase was reached they could be shown to have characters identical with those of the granular spore of the plasmodiophora brassicæ. The capsule derived from the cell in which the parasite lay was, however, comparatively very thick and tended to obscure the body lying within it. Appearances which seemed accurately to represent the escape of the swollen and granular germinating spores from the nuclei and their subsequent development into large granules and spherical bodies with sharply defined border could be traced with little difficulty. Bodies having the same appearance as the amœbæ of the plasmodiophora brassicæ figured by Woronin could also be observed. They had succeeded in growing from carcinomata an organism having the characters of a plasmodiophora in its immediately post-spore phases. They could not speak definitely regarding the presence in carcinomata of bodies representing a plasmodial stage because they had not yet had an opportunity of examining early vegetable tumours with the aid of their special methods and of thus comparing the known plasmodia with certain forms in carcinomata which were probably of a similar nature.

Conclusions.

Summarising their results and conclusions Dr. Robertson said that they had been able to recognise in carcinomatous tumours bodies which in their form and in their reaction to the platinum and silver-gold methods were identical with the plasmodiophora brassicæ, but from one-tenth to one-twentieth of the size. They had succeeded in growing from three carcinomata an organism which accurately represented the post-spore or pre-amœboid stage of a plasmodiophora. If plasmodiophoræ were present in carcinomatous tumours it was hardly open to doubt that they had the same relation to the morbid growth as the plasmodiophora brassicæ had to club-root—that was to say, that they were the determining etiological factor.

THE ANNUAL EXHIBITION.

V.—MINERAL WATERS, BEVERAGES, ETC.

There was a fair representation of mineral waters and beverages, and amongst them a few novelties. Perrier water, for example, though well known on the continent, has only been recently introduced into this country. The water is drawn from a spring situated in the Midi of France. The spring has been known from classical times. Perrier is an alkaline water containing chiefly lime salts with small quantities of sodium salts. The total saline residue is, however, small, amounting to less than 30 grains per gallon. The water has a very agreeable taste and is charged with its own natural carbonic acid gas. Messrs. Idris and Co., Limited, of Camden Town, London, N.W., exhibited a number of interesting aerated waters, including artificial Vichy water in syphons; "distilidris," a distilled water impregnated with oxygen as well as carbonic acid gas; and "salidris," a sparkling distilled water containing certain salines and suitable for table use. It should be noted that the syphons are constructed with solid earthenware spouts

so that the water does not come into contact at any point with metallic fittings. Amongst the largest displays of natural mineral waters was that of the Apollinaris Company, Limited, of 4, Stratford-place, Oxford-street, London, W. A feature of the display was Apollinaris water contained in large stone jugs holding nearly a quart of water. The exhibit included Johannis lithia water and Johannis potash water and Apenta, the magnesian bitter water from Buda-Pesth. Messrs. Allsopps, of Burton-on-Trent, exhibited specimens of their lager beer which is brewed on the continental system. It is a very palatable beer, whilst containing only a small proportion of alcohol. Messrs. Reinheimer and Co., of Surbiton, Surrey, exhibited examples of nektar wines which represent, in fact, perfectly clear preserved grape juice. The use of preservatives is avoided, pasteurisation sufficing. We have already given analytical details of these excellent preparations. A large variety of aerated waters was shown by Camwal, Limited, of 112, Pembroke-street, Caledonian-road, London, N. These included medicated waters, such as soda, potash, and lithia, piperazine and lysidine, and a natural table water from Harrogate sparkling with carbonic acid gas. Amongst natural mineral purgative waters was the Arabella water exhibited by Arabella, Limited, 2A, Hay-hill, Berkeley-square, London, W., which while containing a satisfactory proportion of magnesium and sodium sulphates is not so nauseous to the taste as might be expected; and Friedrichshall, a less powerful water, but containing a very suitable proportion not only of the sulphates of magnesium and sodium but of the chlorides also (C. Oppel and Co., 10 and 12, Milton-street, London, E.C.) A few English spas were represented, notably Buxton, Harrogate, and Leamington. During the meeting a party was organised to visit the latter spa and to inspect the treatment and arrangements made for patients at that enterprising place. Vichy and Carlsbad waters were well represented at the stall of Messrs. Ingram and Royle, Limited, of 26, Upper Thames-street, London.

VI.—PUBLICATIONS.

Publishers continue to find the annual exhibition a means of introducing new publications to the notice of the profession. Amongst those who had stalls this year were Messrs. W. B. Saunders and Co., of 9, Henrietta-street, London, W.C.; J. B. Lippincott Company, of 5, Henrietta-street; John Wright and Co., of Bristol; Mr. H. K. Lewis, of 136, Gower-street, London, W.C.; Messrs. Cassell and Co., of La Belle Sauvage-yard, London, E.C.; Messrs. Macmillan and Co., Limited, St. Martin's-street, London, W.C.; and Messrs. John Bale, Sons, and Danielsson, Limited, of Great Titchfield-street, Oxford-street, London, W. There also may be mentioned the exhibits of Messrs. W. and A. K. Johnson consisting of a series of 12 diagrams on hygiene intended to illustrate a course of popular health lectures.

VII.—MISCELLANEOUS.

Amongst the miscellaneous exhibits may be mentioned the specialities for weak feet, and natural shape boots, exhibited by Messrs T. Holland and Son, of 40, South Audley-street, London, S.W.; the series of sanitary wool wool preparations by the company of that name, of 26, Thavies Inn, Holborn-circus, London, E.C.; the special wire mattresses for hospital use, for lunatic asylums, &c., by the Longford Wire Company, Limited, Warrington; the aertex cellular clothing of the Cellular Clothing Company, Limited, 72 and 73, Fore-street, London, E.C.; the anatomical boots and invalid boots, by Mr. N. Bletchley, of 89, Northgate-street, Gloucester; the system of keeping medical accounts, by the Trading and Manufacturing Company, Limited, of Temple Bar House, Fleet-street, London, E.C.; the Lawson-Tait spring bedsteads, by Messrs. George Gale and Sons, Limited, of Dominion Works, Birmingham; and lastly an exhibit by Messrs. S. Goff and Co., of 17 and 18, King-street, Covent Garden, in which were included sets of harness, a doctor's gig, and stable sundries for medical men.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. James H. Dunn of Minneapolis, where he was professor of surgery at the College of Medicine and Surgery. His death occurred a St. Louis, where he had gone to attend a meeting of the American Surgical Association.—Dr. Friedrich Heisrath of Königsberg, whose work on trachoma is well known.—Dr. C. A. Gayet, professor of clinical ophthalmology in the University of Lyons.

ANNUAL REPORT OF THE METROPOLITAN ASYLUMS BOARD.

THE annual report of the Metropolitan Asylums Board for the year 1903 was submitted to the managers by their chairman, Mr. Augustus C. Scovell, on July 23rd and has now been issued to the public. The reports of the various committees by which the work of the Board is transacted are contained in a volume of 320 pages, preceded by a list of members of the Board showing the committees upon which they serve and, in the case of those elected by boards of guardians, the unions which they represent. Then follows the report of the Board itself, a brief document signed by the chairman and the secretary, with a list appended of the institutions under the control of the Board or in course of erection by it. A useful index concludes the volume. The various committees which make reports are the general purposes committee, the finance committee, the works committee, the contract committee, the children's committee, the training ship *Exmouth* committee, the asylums committee, the ambulance committee, the hospitals committee, and the statistical committee. To the reports of the committees are added, by way of appendices, reports and statistical tables referring to particular subjects, with maps and charts showing the incidence, fluctuations, and provision for the treatment of infectious disease in London. A medical supplement occupies nearly 50 pages.

During the year 21,925 patients passed through the Board's fever hospitals and 359 through the small-pox hospitals, the principal feature of 1903 being the greatly diminished prevalence of infectious disease as compared with preceding seasons. The number of cases of disease admissible to the Board's hospitals and notified as such were in 1901, 35,311; 1902, 40,046; and 1903, 23,087 (p. 162). For this welcome falling off the abatement of the recent small-pox epidemic was largely responsible, the notifications of this disease having numbered in 1901, 1700; 1902, 7796; and 1903, 416; but a lesser occurrence of other diseases is also conspicuous, the figures for scarlet fever in the three years before named standing at 18,381, 18,252, and 12,531 respectively, the figures for diphtheria in the same years being 11,968, 10,538, and 7582, and for enteric fever 3194, 3407, and 2339. In typhus fever alone there was an increase to 22, the highest number since 1893, but these figures are so small that they do not affect the total, and typhus fever during the years recorded by the Board has fluctuated between 35 cases in 1890, the first year tabulated, and four, which was the total in 1897 and 1902.

With regard to diphtheria an encouraging feature of even more importance than the smaller number of cases is the continued decrease in the rate of mortality since the introduction of the antitoxic serum. The mortality rate among the cases of this disease treated in the Board's hospitals was 40·74 per cent. in 1889, varying between this and 30 per cent. up to the introduction of the serum treatment in 1895. It then fell to 22·85 per cent. The serum is now used at all the hospitals for every case judged sufficiently severe to require it and not too far advanced for it to be useless, with the result that the mortality in all cases of diphtheria during 1903 was 9·69 per cent. It must be remembered that many cases are brought under treatment too late and the figures recorded at one of the hospitals showing the day of the disease on which the antitoxic serum was first used speak even more strongly than those already quoted. At the Brook Hospital between 1897 and 1903 187 cases have been treated with antitoxic serum on the first day of the disease without a single death occurring, and 1186 on the second day with 5·4 and 5 deaths per cent. in the first two years of the series respectively, since which period the rate has been about 4 per cent. In cases treated after the second day the mortality is much higher, ranging up to, and sometimes exceeding, 20 per cent. These figures relating to the success of the antitoxic serum treatment in diphtheria should be studied by the public. The writers in a section of the press who are never tired of attempting to discredit any new treatment which they can class with vaccination as "introducing poison into the human frame," and who are abusive of all discovery if they suspect that experiments upon animals have assisted in its development, have misled the public

about the value of antitoxic serum. The public should remember that the figures now cited are incorporated in the report of a body of unprejudiced business men elected for the purpose of seeing that the public treatment of infectious disease in the metropolis is efficiently carried out.

In the report dealing with the small-pox hospitals in 1903 an experiment is recorded (p. 234) which was made in accordance with the claim of Dr. Finsen that the exclusion of all but red light from the wards in which small-pox patients were being treated had the effect of preventing the suppuration of the vesicles and pitting, of abolishing the suppurative fever, and of lowering the mortality. No such effects were observed in a small ward of the Long Reach Hospital, from which all but red light was excluded by means similar to those used in constructing a developing-room for photographic purposes. In addition to the absence of any curative effect the gloom was believed to have a deleterious effect upon the general condition of the patients.[1]

The medical supplement to the report consists mainly of tables. Three of these relate to the incidence of complications of scarlet fever, diphtheria, and enteric fever, and one gives details of 378 instances (2·19 per cent. of the whole number of infectious cases) in which two or more infectious diseases were co-existent at the time of the patient's admission to the hospitals. With the tables relating to diphtheria are particulars of the fatal cases in which antitoxin was not administered (p. 292). Of these (11 in all) five were moribund on admission and six were cases in which no benefit could have been derived from antitoxin. Two notes conclude the medical report contributed by Dr. H. W. L. Barlow, assistant medical officer at the Park Hospital, upon Purin Compounds in Nephritis and on Vincent's Tonsillitis.

Reference should be made to the report of the ambulance committee (p. 148) as one of general interest to medical men in London and to their patients, particularly to those of small means. The committee declares itself aware of the great need felt in London for an efficient public ambulance service for the conveyance of patients suffering from non-infectious diseases as well as for infectious, but not notifiable, cases. It states that it had communicated with the local authorities and with the hospitals and had found a considerable majority of opinion in favour of steps being taken for the provision of such a service. It therefore advised the general purposes committee in favour of the proposal that the Metropolitan Asylums Board should be the public body responsible in the matter, and since then the managers of the Board have applied to the Local Government Board for the authority necessary for them in order to promote the undertaking. No reply on the subject has yet been received. The cost of the proposed service would be covered, the ambulance committee states, by a charge of 7*s.* 6*d.* for each single journey by a one-horse ambulance within the metropolitan area.

In the report of the finance committee (p. 6) a paragraph of some importance to medical men about to take service under the Metropolitan Asylums Board appears and is as follows:—

> Several recommendations from the central committee for the addition of a number of years to the actual period of service of officers under their control have been remitted to, and have been carefully considered by us, but in no case were we able to find any special circumstances or peculiar professional qualifications which would have justified us in recommending the managers to grant any addition.

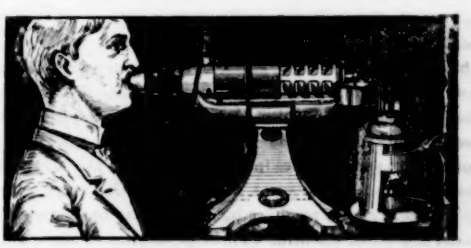
The amount which such additions to pensions as those referred to would add to the expenditure of a Board, the yearly outgoings of which exceed £1,100,000, would be insignificant compared with the effect in securing willing and efficient service. But judicious liberality to their medical officers does not seem to form a part of the policy of the Board. Take, for example, the case of Dr. W. Gayton, whose retirement after 34 years service under the Board is just announced. In the small-pox epidemic of 1870 Dr. Gayton treated 12,000 patients without medical assistance. In the small-pox epidemic of 1891 he prepared and opened the camp hospital at Darenth at a few days' notice and subsequently opened the hospital ships in addition to his work at the Eastern Hospital. He conducted the North-Western Hospital so that it proved in working the most economical of all. He has frequently been thanked and commended for his services in the course of a long and arduous career spent in the service of the Board. Moreover, there is a feature in his superannuation which merits observation. The Poor-law Superannuation Act, 1896, provides that "when an officer or servant has attained the age of 65 years and the guardians or managers are of opinion that it would be expedient in the interests of the public service that he should cease to hold his office or employment, it shall be competent for them to require him to retire upon payment to him of his superannuation allowance to which he may be entitled by the Act." The Board does not appear to have retired Dr. Gayton under this section. It has made an order of its own under which he has fallen automatically. It runs as follows: "In the opinion of the managers it is expedient in the interests of the public service that every officer or servant in the employ of the managers shall cease to hold his office or employment so soon as he has attained the age of 65 years, unless the managers shall pass a special resolution to the effect that his retirement will cause inconvenience to the public service, in which case he shall continue for another year and so on at the termination of each successive year of his age." This is very different from a separate consideration of each case by the Board before the officer retires, and a substantive finding that the individual officer is unfit, a preliminary which the Act enjoins. It would be interesting if it could be tested in a court of law whether officers retired under the order of the Board have been legally removed or not, or whether the resolution being *ultra vires* they are entitled to their full pay until proper steps have been taken by the Board in order to deprive them of it. In any case the question of possible future generous treatment or the reverse should be carefully considered by medical men before engaging to serve the Board. If ever an officer merited special consideration from a public department that officer was Dr. Gayton. But his deserts have not saved him.

[1] Vide THE LANCET, July 30th, 1904, p. 287.

New Inventions.

A NEW REGULATING INHALER.

A FORM of inhaler, a portable apparatus intended for home use by patients in the treatment of diseases of the lungs and air passages, has been devised by Dr. Anton Bulling of Reichenhall under the name of the Regulating Inhaler or Thermo-Variator. It is made principally of highly glazed white porcelain and when standing on a table put together ready for use measures about 22 inches long and 11 inches high. The part shown on the right hand of the illustration contains a sheet-metal boiler heated by a spirit lamp. The fluid to be inhaled is placed in a shallow open pan from which it is drawn up by the current of steam and converted into very fine spray at the nozzle, the jet of spray being directed horizontally through the wide porcelain tube towards the mouth of the patient. At its large end this tube has a number of broad apertures for the admission of air, capable of exact regulation by



a sliding external metallic tube. The temperature of the mixture of spray and air is shown on a thermometer which projects externally. Two outlets for the spray are supplied, one a mouthpiece having a single orifice and the other a double orifice for inhalation by the nose. The material and construction of the inhaler enable it easily to be cleaned and rendered aseptic. It may, if required, be used for medicating, disinfecting, or moistening the atmosphere of a room as well as for direct inhalation. The representatives of the German manufacturers for the United Kingdom are Messrs. F. Krasa and Co. of Wood-street-square London, E.C.

THE LANCET.

LONDON: SATURDAY, AUGUST 13, 1904.

Municipalities and their Duties.

WE have lately had to call attention to the good fortune of the borough of Wigan, as displayed by its possession of an organised body of citizens sufficiently energetic and sufficiently enlightened to take a proper interest in the doings of the local authorities, to stimulate them when torpid, to restrain them when mischievously active, and generally to bring their deeds and defaults prominently to the notice of the ratepayers by whom they are from time to time elected. We are not yet able to extend the same congratulations to the ratepayers of Liverpool; but we have read with great interest and pleasure a publication which seems to render it probable that a similar organisation will before long be formed there. The publication in question is entitled "Municipal Shortcomings," and it is a reprint of a series of 25 articles contributed to the *Liverpool Journal of Commerce* by Mr. T. MYDDELTON SHALLCROSS. The author took as his original text the fact that the death-rate of Liverpool is unduly high; and he argued generally that, as a high death-rate is usually or always traceable to obvious insanitary conditions, and as the municipal authorities are the persons by whom insanitary conditions should be rectified, the high death-rate must, *a priori*, be directly traceable to their sins of omission or commission. He further proceeded to trace the causes of these sins to the circumstance that the persons guilty of them are not in the first instance selected with any reference to their fitness for the work which it becomes their duty to accomplish, but solely from what are called "political" considerations, as well as to the additional circumstance that the chairmen of committees and other officers do not retain their positions for a sufficient time to render them conversant with the details which it should be their endeavour to master or with the laws which it is their business to carry into effect. From the standpoint thus indicated he pushes his inquiries into nearly every one of the chief branches of urban local government and describes in telling language the very little that is done and the great deal that is left undone. The chief heads of the resulting indictment may be summed up under neglect of scientific knowledge, neglect of the sources of diffusion of infectious diseases, neglect of cleanliness, inefficient control of adulteration and of food and milk supply, neglect of the supervision of kitchens, and neglect of the supervision of manufactures, especially of the manufacture of clothing. He further dwells upon the general ignorance of cooking and upon the neglect of cooking by the community, but these are surely matters for which the local authorities are at present scarcely more responsible than the citizens generally. Now that the powers of the former extend to the control of education they may reasonably be expected to regard good cooking as a consequence of instruction rather than as a gift of nature.

Mr. SHALLCROSS enters into detail with regard to nearly all the counts of his long and varied indictment, but inasmuch as details of this kind will seldom be the same in different places it is not necessary to occupy space in describing them. His general principle is, we think, indisputable, although there are probably many persons, and among them many borough councillors and such like people, who will regard this principle much as LOUIS XIV. regarded the opinion of his grandson that subjects were not created solely for the benefit of kings. Mr. SHALLCROSS holds that it is the duty of local authorities to exert to the full the whole of the powers conferred upon them by law for the protection of the community against disease and other preventable evils and that it is equally their duty, when experience has proved these powers to be in any particular inadequate, to seek for their increase in the proper directions and to the necessary extent. As a corollary to this opinion he holds also, it need hardly be said, that it is the duty of ratepayers to give their votes to men who will accept and endeavour faithfully to discharge the responsibilities of their position, and who will not be content with "representing" the Submerged Ward in the interests of so-called Liberalism or Unionism, but will set to work at cleaning its thoroughfares, at abolishing its nuisances, and at purifying its slums. The complete justice of his criticism may be illustrated by an arrangement of which we were cognisant, and which was made in an important manufacturing town in the Midlands in the course of the last century. Party politics ran high in the place and the "Liberals" had a small but decided majority. It was so small that seats in the town council were frequently disputed and much expense was incurred in contested ward elections. The Liberals offered a compromise. If the Conservatives would not seek to enter the town council they should be permitted to reign undisturbed in the board of guardians. The offer was accepted with an understanding that the proceedings of the latter body should be fully reported in the local papers. The town councillors were thenceforward all Liberals, and their official duties were practically limited to the management of little jobs for the benefit of members of their "party." The guardians were all Conservatives, and at every meeting of the board they delivered their opinions about things in general, and the conduct of the Government in particular, to a bevy of pressmen, by whom their words of wisdom were duly communicated to the rest of the inhabitants. The speeches having been made, the speakers went away in a body and left the unimportant business of the relief of the poor to be settled by the clerk and the vice-chairman.

All diligent students of the "Pickwick Papers" have been made aware that "the word politics comprises in itself a difficult study of no inconsiderable magnitude," but this view of the case has failed to commend itself to many municipal councillors who have often fallen into the error of regarding themselves as being primarily concerned with the affairs of the kingdom and only secondarily with those of the borough. Their error has been confirmed by the fact that the leaders of political parties have persistently

regarded "parochial" as a term of contempt, and have as persistently thwarted the efforts of those who have aimed at sanitary improvement, lest its attainment should give umbrage to many of their followers. The great health officer who has recently closed his career was occupied during the last years of his official life in vainly pressing the need for reform upon the attention of the Government and of Parliament, and there is, perhaps, some reason to hope that the good seed sown by him is now beginning to bear fruit. The cowardice of professional politicians is generally at least as conspicuous as their ignorance of all scientific questions, and it is probably hopeless to expect any effective aid from ministerial quarters. But the most exalted personage in the realm has struck a keynote by his pertinent inquiry why, if tuberculosis be preventable, it is not prevented? and some answer to this question will be insisted upon by the public. Mr. SHALLCROSS has, we believe, taken an important step towards supplying it. He has shown that the municipality of one of the chief provincial cities quietly accepts an abnormal death-rate, many of the causes of which are well known and even conspicuous, and he considers that nothing more than half measures have been employed for dealing with them. Mr. SHALLCROSS places the responsibility for these unnecessary deaths upon the municipality, and it is difficult to see in what respect his argument is defective or why it should not be applied in other places and to other authorities.

The Nature and Etiology of Cancer.

CANCER theories have been propounded for generations almost as a matter of course. As a result there has accumulated a plethora of speculation based upon certain facts, the number of which has shown an annoying tendency not to increase. Those men who in their day have been most in touch with the trend of scientific thought and progress have formulated theories which have been sober efforts to mould anew the same old facts into a form in keeping with the sum of human knowledge at the time. We may almost say that each decade of the past half century has had its cancer theory *par excellence*. Each decade has also had its share of fantastic speculations—wild shots in the dark—only justified apparently by the fact that their authors were the first to give them publication. The quack who proclaims that he has a sovereign remedy "for the largest spider cancers, drawing them out with all their tentacles" or "causing them to drop out like bulbs with roots on them" by means of a "draft with more business in it than a dozen plasters" is not wider of the mark in treatment than many who even to-day attempt to explain the mystery of cancer by adding one more to the already too numerous hypotheses. The theories of the past and of to-day fall into the same two categories: the explanation is sought either in causes intrinsic to the body or in the influence of extraneous agencies on the body. The problems of cancer are nowadays believed by many to require more resources than individual effort can supply. The recognition which has thus far been accorded to the combined efforts of the Imperial Cancer Research Fund and other similar organisations in this country and abroad indicates that the individual investigator who has not also the backing of some extended organisation will in future work under greater disadvantages than in the past.

In the regulations of 1793 relating to infectious diseases in Germany "cancer" was included. At the present time there is a strong movement in that country, headed by VON LEYDEN, to make cancer a notifiable disease. The evidence on which "cancer" was included among the infectious diseases of 1793 may have been more convincing at that time than any which the advocates of the infectious nature of cancer are able to adduce to-day. The parasitic theory of cancer is the modern expression of a belief in an extrinsic causation. Macroscopic, microscopic, and ultramicroscopic parasites have been asserted to stimulate cells to cancerous growth. The alleged parasites have been cultivated and they have been seen to proliferate on the warm stage of a microscope. The limited epithelial proliferation in some of the most infectious of diseases—e.g., vaccinia—has been compared to the unlimited growth in cancer, and to give point to the argument the two have been designated "epithelioses" and "epitheliomas" respectively. The belief in the parasitic nature of cancer may be defended by the assertion that the parasite differs from any form known, so that although cancer is an infectious disease it is so in an entirely new sense. The belief in a parasitic etiology is obviously a manifestation of a reaction in what may be styled the bacteriological epoch against the cellular teaching. The COHNHEIM theory postulated the occurrence of "embryonic rests," the sites where they occurred, and their possession of powers of growth. Time has shown that embryonic rests do frequently occur but it has also as surely shown that displaced embryonic or adult cells are not endowed with unlimited powers of proliferation. The negative results of all previous conceptions of an intrinsic etiology naturally led to a reaction in favour of the extrinsic theory and to the development of the parasitic or infectious hypotheses on rational and even irrational lines. Its advocates have repeated the errors made by those whose views they have sought to replace. They have postulated infectivity and the possession of powers of growth by infected cells, but the facts have refused to keep pace with such hypotheses and have shown in the few cases in which cancer has been experimentally transmitted to a new host that there is nothing of a true infection but only a continued growth of the original cancer cells themselves.

It is a sure sign of the waning power of one cancer theory when, following a new lead, fancy begins to run wild along other lines. Recent research has added some new facts to our knowledge of cancer, has placed the problem upon a more comparative basis than has hitherto been attained, and has adduced proofs in support of the view that the problems of cancer as they present themselves throughout the vertebrate kingdom are essentially cell problems. All that the original observers have done has been to record their observations and to formulate what they believe may be useful, if contradictory, working hypotheses. Before even these observers are at one as regards the interpretation to be put upon some new features in the division of cancer

cells, or the facts themselves have received general recognition, the speculator is again to the fore with dogmatic statements backed by no proofs. At the present time our knowledge is so limited that it is wise to avoid entirely all dogmatic utterances, and in this connexion we refer our readers to the account of two demonstrations at the Oxford meeting of the British Medical Association which is published in this issue of THE LANCET. One of these demonstrations claimed to show that in a malignant growth the cells have taken on a likeness to reproductive cells, and the other demonstrated the parasitic nature of malignant disease. In each case the work is a model of what scientific work should be, the investigators have taken all possible pains to eliminate error, to be clear, and not to make extravagant claims. To the value of the work done by Professor J. B. FARMER, Mr. J. E. S. MOORE, and Mr. C. E. WALKER, we have already borne testimony in our columns. The researches of Dr. W. F. ROBERTSON and Mr. H. WADE show that the school which regards bacterial infection as the origin of cancer is also active. Let those who in future essay to advance our knowledge of cancer regard it as their first duty to add *new facts* to those long known. They may be more difficult to find than new explanations of the old ones but their accumulation will assuredly point somewhere much more definitely than the too many explanations of the old facts have done.

The General Management of Chronic Diseases of the Heart.

IN a paper which appeared in our columns last week by Dr. J. HILL ABRAM attention was drawn to certain points in the diagnosis and treatment of heart lesions, the practical lesson of the writer being that the therapeutics of chronic diseases of the heart present many problems which demand greater attention than is usually devoted to them. The treatment of well-marked cardiac failure is understood by practitioners and appreciated by patients, but when the malady has assumed a more chronic condition the perseverance of the medical man and the patience of the sufferer are both severely taxed. During what may be termed the acute stage of cardiac disease all efforts are devoted to the establishment of satisfactory compensation—the mechanism of the circulation has to be adjusted—but subsequently the maintenance of that compensation is equally important and demands a vast amount of care and attention. The hearty coöperation of the patient with the efforts of the practitioner is necessary for a successful result, but unfortunately it is an open question how much the former should be taken into the confidence of the latter. As a rule of life, as well as of sensational fiction, confederates only succeed when they are completely candid with each other. But we doubt whether it is beneficial, as Dr. ABRAM would have us think, that the exact state of affairs should be explained to the sufferer from chronic heart disease. The use of the term "heart disease" to a patient is frequently productive of great depression, which it is important to avoid, whilst the necessary injunctions can generally be given with sufficient emphasis without either minimising the seriousness of the condition or pronouncing words that to the lay mind sound like a death warrant. There is among laymen a general impression that "heart disease" is incurable and to some extent, of course, this is right. But the physician is aware that if certain maxims are observed in many cases life may be prolonged for some years, for a sufficient number of years, perhaps, to enable the patient to die of old age. And the mode of living that should be enjoined upon the sufferers from chronic heart disease does not necessarily entail very irksome restrictions.

There are certain principles which have particularly to be borne in mind in directing the management of a case of chronic cardiac disease. Three of these are of the utmost importance—namely, (1) to sustain the force of the heart; (2) to insure that its nutrition is maintained; and (3) to reduce the peripheral resistance. It is to the first of these that the main efforts are usually directed but the other two are of equal, perhaps of even more, importance. Drugs alone cannot be relied upon, although their influence in certain cases and directions may be very marked. Success in treatment greatly depends upon the manner in which the patient controls his whole mode of life. The force of the heart, it is true, can be most readily sustained by such drugs as digitalis and strychnine but its nutrition can more easily be maintained by means of massage and the mechanical methods introduced by ZANDER of Stockholm in 1872, the graduated walking exercises of OERTEL, and the resistance exercises of the brothers SCHOTT. The object of all these measures is to stimulate the arterial circulation in the muscle, to hasten the venous currents, and to promote the passage of lymph through the lymphatic channels; the metabolism of the body is thus maintained, and digestion is improved in those individuals who from any cause are unable to take active exercise. Massage in particular is able indirectly to influence the coronary circulation in those who are bed- or sofa-ridden and thus the desired improvement in the nutrition of the cardiac muscle is brought about. Graduated exercise has been found to be a valuable therapeutic measure if carried out under skilled advice. It probably acts in two ways—partly, as we have pointed out, in improving nutrition and partly by reducing the peripheral resistance. We need scarcely remind our readers of the well-known physiological fact that a muscle in action requires more blood than when at rest; consequently sustained moderate use draws a quantity of blood from the general circulation into the muscles and so relieves the distended chambers of the heart. In our opinion, sufficient stress is not generally laid on the relief that may be given to the heart by bringing about dilatation of the arterioles. This may be accomplished not only by exercises of the nature above suggested but also by the administration of such drugs as the alkaline iodides and carbonates, or by nitro-glycerine or nitrite of amyl. Great assistance can be rendered by careful regulation of the patient's diet, the state of the bowels, and the daily amount of ordinary exercise, for by such general disciplinary attention the special therapeutics, whatever their nature, are much reinforced.

There are certain symptoms caused by defective cardiac power which add greatly to the patient's distress but which often do not receive adequate attention. Dyspnœa,

palpitation, and "dropsy" are phenomena which the laity constantly associate with "heart disease," but apprehensiveness, restlessness, sleeplessness, and digestive troubles are less obviously to be attributed to a cardiac cause. Nevertheless they often exist and if they can be overcome great general improvement will be found to follow. An easy and regular circulation through the brain is accompanied by a sense of security and comfort; when the cerebral circulation is insufficient certain nervous manifestations are likely to ensue. The means which we have already indicated will naturally be the chief elements in lessening those symptoms but much can be done by a judicious and tactful practitioner in reassuring the patient and calming his fears. To procure sleep in cardiac cases may sometimes be a matter of great difficulty. Amongst the less powerful hypnotics which are employed in cardiac cases we are inclined to give the first place to chloralamide. The amount may gradually be increased to considerably beyond the ordinary pharmacopœial dose and its use may be prolonged without harm. The dyspepsia of cardiac disease is also difficult of treatment. The old French maxim that a patient with heart disease complains of his stomach and a patient with gastric disturbance of his heart may be generally accepted. If the circulation of the stomach is disturbed digestion is, of course, interfered with and the correct treatment will be to improve as far as possible the cardiac power. But this does not mean that the therapeutic measures are to be solely cardiac in intention; on the contrary, the symptoms of dyspepsia may often be combated with appropriate remedies. In short, we must never forget, and must never allow our patients to forget, that by general treatment much may be done for patients suffering from chronic disorders of the heart.

Annotations.

"Ne quid nimis."

THE PRESIDENTIAL ADDRESS AT THE PHARMACEUTICAL CONFERENCE: THE MEDICAL MAN AND THE DISPENSING OF MEDICINE.

THE address to the members of the British Pharmaceutical Conference, which meets this year at Sheffield, was delivered by the President, Mr. T. H. W. Idris, the mayor of the borough of St. Pancras, on August 9th and will be published in the *Pharmaceutical Journal*. We recommend our readers to read it there, as it will be found both of interest and instruction. Most of the address was, as was to be expected, of more concern to pharmacists than to medical men, but Mr. Idris's remarks upon the chemistry of the essential oils have a wider bearing than appears at first sight. He showed how the superiority of natural essential oils over the synthetic preparations was due to the fact that the natural oils are chemically impure. So in the same way the superiority of pot-still brandies or whiskies over the fluids which manufacturers euphemistically call "blends" is due to the fact that the genuine pot still spirit is chemically impure. Mr. Idris passed on to consider the position of poison legislation and pharmacy legislation and referred to the Pharmacy Bill which failed to obtain a position this year in the House of Commons. It is much to be hoped, however, that next year will see some legislation carried whereby absolutely unqualified persons may be prevented from trading as pharmaceutical chemists or from dealing in poisons intended for internal use. Mr. Idris next referred to our singularly lax system of death certification and concluded his address by dealing with the difficult question of dispensing by medical men. This is the portion of the address which has most interest for members of the medical profession and we give Mr. Idris every credit for the temperate way in which he stated his views. In his address to the Pharmaceutical Conference which met last year at Bristol Mr. Idris spoke on this matter at length and he returns to the subject with zeal.

"It is an anomaly," he says, "that chemists dispensing should be governed by certain regulations but that a doctor should be free to carry on the important function of dispensing in whatever fashion he may please. As you are aware, I go further and say that not only should regulations as to the dispensing and storage of poisons be applied to the dispensing carried on at doctors' surgeries and all other places and institutions where medicine is dispensed, but that dispensing should be performed not by the medical man but by a qualified chemist."

The question of medical men dispensing their own drugs must always be a difficulty, and many would welcome a change whereby the public came to recognise that medical fees were due for expert advice and not for something in a bottle. But in many districts there is not a large enough population to support a duly qualified pharmaceutical chemist as well as a medical man and it would be impossible, as far as we can see, to devise legislation which should prohibit a medical man from dispensing in a district where a pharmaceutical chemist was available while allowing him to do so in the contrary case. Mr. Idris points out that pharmaceutical chemists have no wish to usurp the functions of the medical man and this is no doubt true of the best of them, but we have heard of counter prescribing. The preventing of pharmaceutical chemists from prescribing seems to us as difficult by law as the preventing of medical men from dispensing. So long as any person is allowed to practise medicine provided that he does not imply that he is a registered medical man it must be unfair to impose particular disabilities upon a class which, though uneducated in medicine, yet knows something of practical therapeutics. And so long as the community cannot pay both the medical man and the dispensing chemist the medical man will have to discharge the double duty.

THE ADULTERATION OF FOOD AND DRUGS.

IN an annotation which appeared in THE LANCET of June 25th, p. 1807, under the title "Bread and Butter," attention was called to the observations of Dr. William Collingridge upon the substitution of other fats for butter, particularly in the case of "bread and butter" sold as such in small eating and coffee houses in London. The report of Mr. Edward Sergeant, medical officer of health of Lancashire, contains an analysis of the prosecutions which took place in that county under the Sale of Food and Drugs Acts during the quarter ending June 30th, and in the particulars given the adulteration of milk and butter and the passing off of other substances for the latter are conspicuous. Within the period named legal proceedings were taken in 52 cases and in 42 of these the magistrates, having found that the article sold was not of the nature, substance, and quality of that demanded, inflicted fines which cannot be regarded as outrageously severe, for they amounted only to £82 19*s.* in all. In many cases only the payment of costs was ordered. Of the ten charges upon which there was no conviction two were withdrawn after the conviction of the defendant in another case had been secured, and four were dismissed upon the defendant producing a warranty from the dealer who had supplied him. Of the remaining four three were dismissed by the bench and one was withdrawn. Of

the 42 convictions obtained six related to butter, all but one being in respect of excess of water, and the sixth being grounded upon the presence of 0·94 per cent. of boric acid. Eight were for margarine sold without proper intimation of its character. 16 convictions were obtained in milk cases, two on account of the presence of formaldehyde in the proportion of approximately 1 to 100,000 parts, two on account of subtracted cream, and the remaining 12 for added water. Thus substitution and adulteration in the case of dairy produce were responsible for 30 out of 42 convictions in which the purity of the food of the people was involved. Of the remaining 12 no less than seven successful prosecutions were in respect of pepper, which was mixed chiefly with its own husks bleached or partly bleached and dyed; in one instance, however, ground olive stones formed the adulterant. There were two cases of selling whisky and one of selling rum under proof and there was an important conviction for the sale of brandy containing upwards of 70 per cent. of neutral spirit not derived from grapes. With reference to this it may be noticed that two charges were dismissed of selling as brandy spirit not to any extent derived from grapes. This was done upon warranties being produced from the original vendors and these were impounded by the court. The remaining conviction making up the total was for selling as golden syrup a mixture containing 50 per cent. of starch sugar syrup. The greatest amount of adulteration and deception therefore, according to these figures, takes place in those articles of food the purity of which is of most importance owing to their being articles of universal consumption and owing to their forming an important portion of the diet of children.

THE CASE OF DR. F. J. HICKS.

As we have announced already Dr. Frederick John Hicks was acquitted last week at the Central Criminal Court where he was indicted on a charge of having procured criminal abortion upon a young married woman. There were circumstances about the case, all of which are obvious to our readers, that made the issue appear doubtful. Neither Dr. Hicks nor those who assisted him in his defence could possibly have been blind to the force of some of the arguments of the Crown, so that the protracted period of delay during which he was under remand must have been a time of terrible anxiety for him. We congratulate him upon the decision of the jury, whose verdict discharges him from the case without a stain upon his character, and who, in rendering their verdict, certainly acted in complete accordance with the evidence. Leaving aside many weighty considerations that made Dr. Hicks's guilt improbable, and looking at the charge only as it was formulated, it must not be forgotten that the alleged criminal act was one of extraordinary imbecility. Dr. Hicks was accused of having attempted to procure abortion upon a young married woman by inserting a self-retaining stem-pessary into her uterus, sending her home with the instrument still within her, in case, as it were, any doubt should arise as to the nature of his illegal operation. Surely if his action had been criminal in intent his folly was incredible. Secondly, the incriminating correspondence which, as we consider rightly, was not held by the jury to be incriminating at all, was lying loose in his consulting-room. It is an old experience of the police in criminal cases that the most damning letters are occasionally retained by accused persons, but that a physician having the crime of criminal abortion upon his conscience should leave the documents in proof of the same open upon his desk for months together passes the bounds of belief. The use of the intra-uterine stem-pessary, though so fatuous a method of procuring abortion, was formerly the recognised treatment for the reposition of a displaced uterus. This was the teaching in the medical schools when the expert medical witnesses in the case, Dr. Champneys, Dr. Lewers, Dr. Horrocks, Dr. Luff, and Mr. Pepper, for example, were students. Gynæcology has developed during the last 20 years and Dr. Hicks's method of treatment would not now be considered up to date in most cases. But if his procedure was obsolete when directed against anteversion, as a method of procuring abortion it would have been so astoundingly incriminating for the operator that the jury rightly agreed to acquit him of criminal intent.

THE METROPOLITAN HOSPITAL SUNDAY FUND.

At the Mansion House on August 9th the Lord Mayor of London presided at a meeting of the Council of this Fund, which was held for the purpose of receiving the report of the committee of distribution. The committee recommended awards this year to 215 institutions. The amount of collections, including interest from the Court of Chancery, to the present time is £59,360. The distribution of £56,371 8*s*. 4*d*. to 157 hospitals and 58 dispensaries is now recommended. This year 218 institutions have made application for grants from the Fund, being seven more than in 1903 and just double the number that applied in 1874. The adoption of the report, which was carried unanimously, was proposed by the Lord Mayor and seconded by Sir Sidney Waterlow, who for the past 32 years has acted as chairman of the distribution committee. Among the speakers who referred to matters of pressing importance with regard to hospital administration were Sir Henry Burdett, who pointed out that those institutions which were controlled by a medical superintendent showed less expenditure per bed, and Dr. J. G. Glover, who called attention to the increasing and curiously varying cost of out-patients in different hospitals. The amounts per patient varied from 1*s*. 6*d*. to 7*s*. 4*d*. per head. When presenting, as usual, the list of awards we may take the opportunity to refer at greater length to some of the important matters touched upon at the meeting.

THE PASSING OF THE CHIMNEY.

Industrial pursuits inflict upon us many kinds of offence and commendable as is the activity of our public health authorities they have, of course, no power to remove offences which affect the eye. Such a power would open the door, we suppose, to vexatious proceedings, and yet who shall decide which is the greatest offence, that which affects the sense of smell, of sight, or of hearing? There can be little doubt that noise can be a source of ill-health just as much as evil smells, but it would be more difficult perhaps to establish that a blot upon the landscape is in the same degree harmful. All the same few will deny that a prospect can be, so to speak, noisome to the eye and when the harmony of a prospect is ruthlessly disturbed the eye that detects it transmits a feeling of pain to the whole system. "It gets on one's nerves," we say of an ugly sight as of an ugly sound, and the expression has a substratum of physiological truth. Progress day by day teaches us how barbarous are some of our industrial methods. What can be more hideous to the sight than a forest of factory chimneys and, after all, the chimney is man's simple but clumsy design for the creation of a draught, and the landscape must be marred because the manufacturer wants an abundant supply of oxygen to feed his furnace fires. There is some hope, however, that the factory chimney may soon give way in favour of a system of forced draught. Already destructors, which have hitherto sadly disfigured many a picturesque spot on account of their ugly chimney shaft, are being constructed without a chimney. A simple method of forced draught replaces the function of the

offensive shaft, and not only is it more effectual for purposes of combustion, but it reduces the immense cost entailed in constructing a chimney stack 100 feet or so high. We may be sure that the economy of the principle will appeal to a manufacturer even if a sense of beauty does not. The day may come when domestic chimneys may be done away with by the adoption of the forced draught and at length the realisation of smokeless London is suggested as a pleasing outcome.

MEDICAL EDUCATION IN ST. PETERSBURG.

THE new statutes of the St. Petersburg Women's Medical Institute have just been published and open a new era in the history of the education of Russian women who in respect to medical education and practice are practically on the same terms now as doctors of the male sex. They may obtain diplomas, pursuing their studies for medical degrees in the universities of the country and in the Military Medical Academy. "Henceforth," says the *Novosti*, "the Russian woman, having brilliantly distinguished herself in various scholarly careers, is free to participate in the general work of the laborious field of medicine." The Russian female medical students have for a long time been distinguished for their energy and enterprise in several of the best known continental schools and they will for the future have proper opportunity for exercising their talents in their own country. The new law limits the age of those who may be received into the institute to women not younger than 19 years and not over 28 years. It also limits the number of students of the Hebrew faith to 3 per cent. It is by such funny exhibitions of barbarism that Russia is always revealing herself to the rest of Europe as hopelessly behind the times. The female medical practitioner is not, of course, unknown in Russia. The first Russian lady doctor to practise was Madame Sussolovou who, having obtained diplomas abroad, for a long period had a successful practice in St. Petersburg.

OCULAR PARALYSIS IN GRAVES'S DISEASE.

IN addition to the usual ocular signs of Graves's disease paralysis of one or more of the extrinsic ocular muscles occasionally occurs. In the *American Journal of the Medical Sciences* for July Dr. W. C. Posey has recorded the following case. A woman, aged 43 years, was admitted into hospital on account of failure of sight. She had had poor health for about ten years and suffered from palpitation of the heart and nervousness. For several years she had suffered from pains in the supra-orbital and temporal regions. Her sight had been good until two months before she went to the hospital, when she began to see double. She was not aware of any swelling in the neck. There was slight proptosis, especially of the left eye, and the palpebral fissures were widened. She fixed with the right eye, the left being rotated downwards and outwards. Von Graefe's sign was found in both eyes at times; at others it could not be demonstrated. The left eye could not be rotated upwards above the horizontal line; external and internal rotation were limited; downward rotation was good. A study of the double images showed that there was paralysis of the sixth nerve and of that portion of the third which supplies the inferior oblique and superior and inferior recti muscles. The thyroid was slightly prominent and the pulse was 110. Prolonged rest in bed was recommended but after a few weeks the woman became impatient and left the hospital unimproved. Ocular paralysis in Graves's disease may be limited to a single extrinsic muscle or may affect all the extrinsic muscles of one eye; occasionally both eyes are affected. Paralysis of the ciliary muscle has not been recorded, nor of the associated movements of the eyes except convergence. Paralysis of the levator palpebræ superioris may occur and sometimes is accompanied by paralysis of the other branches of the third nerve. Paralyses of other cranial nerves have been reported. Bristowe has described a case in which ophthalmoplegia externa came on three years after the onset of Graves's disease. There were also slight hemianæsthesia, colour blindness, and loss of smell and taste on the same side. The patient died from bronchitis and the necropsy showed no changes to account for the paralysis. In a case reported by Warner there was double ophthalmoplegia externa with paralysis of the fifth and facial nerves. Jendrassik has described paresis of the muscles of mastication in conjunction with paralysis of the ocular and most of the facial and palatal muscles. The pathology of paralyses in Graves's disease is not definitely known. The cases of more or less complete ophthalmoplegia externa, and especially those in which there were associated lesions of the facial, hypoglossal, and glosso-pharyngeal nerves, seem to show that the paralysis is of central origin and due to nuclear changes. The paralyses seem to be only functional, for they are sometimes transient and the necropsies which have been made were negative.

A SAFETY HELMET FOR FIREMEN AND OTHERS.

WE have received from Dr. Guglielminetti of Paris a description of an apparatus devised by him for firemen, rescue parties in mines, and others for whom it may be necessary to move about with safety in an irrespirable atmosphere. The details of the apparatus are strongly reminiscent of the cylindro-conical projectile devised by Jules Verne for the journey to the moon and in which J. T. Maston lived for a week and grew fat. It consists of a helmet something like that of a diving dress but made of aluminium instead of copper. This helmet is entirely cut off from the outside air by means of a pneumatic collar. Underneath the chin-piece of the helmet is a sack, called the respiratory sack, which, to commence with, is full of air. The oxygen of this air is constantly renewed from a small cylinder of that gas which is carried at the back of the person using it. The expired air passes through some cooling coils and is purified of its carbon dioxide by means of caustic potash, while the nitrogen is simply used over again. Enough oxygen can easily be carried to enable a man to stay for at least 30 minutes in an irrespirable atmosphere and, in fact, on July 2nd a fireman remained for 38 minutes in a closed cellar filled with the smoke from damp burning straw and came out none the worse. From the accounts of experiments made with the apparatus it would seem to be of great value for rescue parties in mines and for firemen, though in the case of the latter, as the oxygen is compressed in the cylinder, the question of possible explosion from heat might have to be considered. The Paris fire brigade, however, appear to be well satisfied with the apparatus.

PUBLIC ELEMENTARY SCHOOLS AND MEDICAL INSPECTION.

ON August 2nd the council of the Richmond (Surrey) corporation, acting upon the advice of the education committee, sanctioned the appointment of the medical officer of health as medical officer to the education committee at a remuneration of 50 guineas per annum for the purpose of medical inspection of scholars attending the public elementary schools and for other duties under that committee. We are glad to see that the local authority has recognised that it is its duty to obtain medical inspectors for scholars attending the elementary schools, and it is without doubt an advantage that such inspection should be performed through the health department. It is also gratifying to see that the education authority has grasped the principle that such duties are additional to the ordinary work of the medical

officer of health, as is shown by the grant of extra remuneration. In addition to this departure the education committee has granted a sum of 25 guineas to the medical officer of health and the borough surveyor respectively for a joint report upon the structural and sanitary condition of the public elementary schools. The report deals with nine schools and the reporters say that in general the schools have been well kept up. In most of them, however, various structural alterations and additions appear to be necessary. Altogether we congratulate the Richmond corporation upon its sensible attitude. There is scarcely any agent so capable of spreading infectious disease as a public elementary school and to no institution does the proverb, "Prevention is better than cure," so forcibly apply. Careful inspection will not only bring about saving of life and prevention of disease but will also spare the pockets of the ratepayers.

A SUNDAY LEAGUE EXCURSION AND RAILWAY MISMANAGEMENT.

How badly some of our railway companies—and the South-Eastern Railway in particular—muddle through their attempts to deal with a holiday crowd was in evidence last Sunday at mid-day at Charing Cross Station when one of the platforms was packed with men, women, children, and babies going on a Sunday League excursion to Margate, Ramsgate, Hastings, and elsewhere. There was no train at the platform so that people could take their seats as they arrived. The officials waited until the platform was so crowded that no one could move and then they backed the train into the station, with the inevitable result—a mad and dangerous struggle for seats, rendered all the more severe by the knowledge that all cannot possibly be wedged into the train, in which women and the poor little children and babies suffer considerably. It is no exaggeration to say that the scene last Sunday on the Margate train being backed into the station was a positive disgrace to the South-Eastern Railway and one for which the directors should be called to account by the Board of Trade. It was the worst specimen of gross and culpable mismanagement short of actual loss of life which could well be conceived, and it was a marvel that many were not swept off the platform and killed or injured by the approaching train. A holiday crowd of any class will push and struggle to gain their end, and the lower down in the social scale the crowd may be the keener will the struggle be. And a railway company should be compelled to take at least reasonable steps to prevent accidents and probable loss of life. We have very grave doubts whether the excursions promoted by the Sunday League are not extremely harmful. It cannot be good for men or women and still less for children and infants to spend some five hours in a crowded train and to be rattled over a badly laid road in an inferior carriage for the sake of spending a short time at an overcrowded seaside resort. The Sunday League would do better to transfer its subscriptions to one of the genuine agencies which exist for giving children and other workers a holiday in the country of decent length.

CANADIAN MEDICAL ASSOCIATION: VANCOUVER MEETING.

THE meeting of the Canadian Medical Association will take place on August 23rd, 24th, 25th, and 26th at Vancouver, British Columbia, under the presidency of Dr. Simon J. Tunstall. Vancouver has a splendid harbour, has wonderfully grown since 1886, and is the western terminus of the Canadian Pacific Railway. At the opening meeting on August 23rd at 10 A.M. Mr. A. W. Mayo Robson will deliver an address on Surgery and Dr. C. E. Dudley will deliver an address on Gynæcology. There will be numerous papers read by men prominent in the profession from Eastern Canada, the United States, and Great Britain. The entertainment committee has made arrangements so that the ladies accompanying the parties will be well provided with entertainments during the time the meetings are in progress. On August 25th an excursion will be made to New Westminster, the former capital of the province, 15 miles from the mouth of the Fraser River and one of the termini of the Canadian Pacific Railway, and a visit will be paid to the Asylum there; thence boat will be taken to Steveston to see the salmon canning. On August 26th steamer will be taken across the strait to Victoria, the capital, on Vancouver Island, where a garden party will be held at Government House, and in the evening a reception will take place at the Parliament Buildings. On August 27th those who desire will have an opportunity of visiting Williams Head Quarantine Station and Esquimalt, called the "Gibraltar of the Pacific Coast," a few miles north-north-west of Victoria. Arrangements have been made for excursions to Kaslo, on Kootenay Lake, and to Golden, and for those who wish to go further north special rates may be secured to Port Simpson by Dixon Sound, to Atlin in the neighbourhood of the Chilkoot Pass, and to Dawson for the Klondike region. Those going from eastern points who wish to avail themselves of the special rates are advised to forward their names to Dr. George Elliott, general secretary, 129, John-street, Toronto.

THE PROHIBITIVE PRICES OF WINES AT HOTELS.

FEW who know the routine life of hotels will be surprised to learn that their receipts are very sensibly diminishing in spite of the fact that the number of visitors is not appreciably less. The situation is perhaps to be explained by the heavy charges made for wine, which are the less justifiable because the bottle for which a high price is charged rarely contains even a sound wine. Red wines are seldom good at a hotel; sparkling wines may, as a rule, be trusted because the labels are the original shipper's, but they are sold at a price about 100 per cent. or more over the merchant's price. The visitor may to some extent escape such fleecing by ordering a bottle of good matured whisky and drawing upon it as he requires, mixing it with mineral water, or with plain water when the charge for the former happens to approach the sum of a shilling. It is much to be deplored that people who prefer the agreeable stimulating qualities of sound wine should be forced to get its mere alcohol equivalent in ardent spirits. Yet spirit drinking at meal times at the hotel is now the rule, as a glance round the dining-room will instantly show. There is no more agreeable or wholesome accompaniment to dinner than a sound, soft, non-acid, and light claret, and for such most wine drinkers would pay a reasonable price. If, however, they are inclined to choose something better than a mere *vin ordinaire* they know from experience that it will cost at least from 6*s*. to 12*s*. a bottle and its taste may throw doubt on the label. Sound vintage clarets may be purchased through a wine merchant at from 2*s*. to 4*s*. a bottle. In defence it is said that without big profits on the wines hotel keeping would not pay. We do not believe that a hotel cannot be run on successful lines without inflicting upon its *clientèle* exorbitantly expensive wines, and we are glad that the public attitude seems to be the one that is likely to produce a change. The man who has a wholesome preference for good wines and who generally eschews spirits should not be compelled to take refuge in the latter because of the unreasonably high charges for the former. Many hotels complain that their business is only done in seasons, in fits and starts, and therefore in these seasons they must reap their harvest. Their season, we

are sure, would be a more enduring one if they would supply good wines at reasonable prices.

A VISIT OF FRENCH MEDICAL MEN TO LONDON.

THE arrangements for entertaining our French medical and surgical *confrères* who hope to visit us at the commencement of October have advanced in several directions since we last referred to the subject. Our visitors will be entertained at a dinner to be held at the Hotel Cecil on Oct. 12th. Sir William Broadbent, the chairman of the executive committee in London, will preside, and the French Ambassador, who was invited to be present but who will be out of town at that date, will be represented by M. Daeschner, First Secretary of the Embassy. The Hospitals Medical Society of Paris at its meeting held on July 8th accepted with pleasure all the items of the programme drawn up by the London organising committee and expressed its intention of doing everything in its power to make the visit successful.

JUVENILE SMOKING.

A BILL for the prevention of juvenile smoking has been presented in the House of Commons by Mr. R. Rigg and is supported by Colonel Bain, Mr. C. P. Allen, Mr. Cathcart Wason, Dr. Macnamara, and Mr. G. Lambert. The chief clause is as follows: "No person under the age of 16 years shall smoke or use tobacco in any form and any such person so doing shall be liable on conviction to a penalty not exceeding 10*s.* for each offence." Another clause forbids anyone to sell, give, or supply tobacco in any form to or for the use of any person under the age of 16 years and provides penalties for such an offence, the onus of proof of age to lie on the person charged with a breach of provisions of the Act. We give the promoters of this Act every credit for wishing to stop what is undeniably a danger to the health of the community—even though it be a much exaggerated danger—but we feel compelled to ask them how they are going to see that the provisions of the Bill are to be carried out? How for instance will they stop the street Arab from picking up "fags" and smoking them, and how is the unfortunate tobacconist to be sure that a customer is over the appointed age? Supposing again that a street boy is caught smoking, is charged and fined, who is to pay the fine? If his parents or guardians can be found they may be mulcted, but this will not affect "the soaring human boy" in the least, and should his father incontinently flog him the result will probably be a summons for assault. The Bill as drafted appears to us to be well-meaning but futile.

THE NATIONAL SOCIETY FOR THE PREVENTION OF CRUELTY TO CHILDREN.

THE annual report of this society has just been published and contains certain interesting particulars of its work and of its requirements. We learn from it that while the number of cases investigated exceeds that of last year by 2544 the prosecutions have been fewer by 135. It may be noted by any who may still entertain doubts as to the necessity for the work done by this society that in 556 cases children died from the cruelty to which they had been subjected. 56 new centres have been opened by the society. The financial record is a somewhat anxious one. There is a deficit in the year's account of £4818 and for the first time in seven years there has been a decrease in income which is £1301 less than that of last year. On the other hand, it is encouraging to find that the amount derived from annual subscriptions has increased by £566. The average cost per child is also less than formerly. Originally £1 4*s.* 2*d.*, it had fallen to 13*s.* 5*d.* last year and it is now 13*s.* The deficit referred to above is largely due to extension of the society's operations. We should be sorry to see any limitation of this work but it is obvious that sooner or later a want of funds must lead to diminished energy unless the public generally and members of local branches more particularly will see to it that money is forthcoming. It is hardly to be expected that the parent society can without public assistance fully supplement the resources of the ever-widening circle of its offshoots. There is no need for us again to commend the work itself. The existence of cruelty undoubtedly widespread and deliberate is its justification; its success and the respect, even the esteem, in which it is held among the class which it is intended to control form a gauge of its quality.

ARRANGEMENTS are being made to obtain special tickets at a reduced return fare for those who intend to be present at the Ophthalmological Congress at Lucerne on Sept. 14th and following days. Those who wish to avail themselves of the privileges afforded by the railway and steamboat companies to members of the congress should communicate at once with Mr. W. H. Jessop, 73, Harley-street, W., stating in each case the number of tickets required. The purchase of these tickets does not involve travelling in a party and each member will be free to choose the day and train he may prefer.

THE Revaccination Bill which was presented to the House of Lords by the Duke of Northumberland and read a first time on May 16th was read a third time on August 5th, passed, and sent to the House of Commons. Its provisions are, shortly, to provide for the revaccination of children within six months of their attaining the age of 12 years. At this stage of the session it is, of course, hopeless to expect that the Bill will make any further progress.

WE regret to announce the death on August 9th from angina pectoris of Sir William Mitchell Banks. Sir William Banks built up a surgical reputation for himself in Liverpool which extended throughout the country. His Lettsomian lectures on Cancer of the Breast, which were published in THE LANCET early in 1900, will be remembered as some of his most recent work.

WE have also to announce the death on August 10th, at the age of 80 years, of Sir Frederic Bateman, consulting physician to the Norfolk and Norwich Hospital. His fame, like that of Sir William Banks, was not confined to the city in which he lived, but was widely spread in England and on the continent. We shall publish extended notices of the careers of both these distinguished medical men.

THE death is announced from heart failure whilst cycling of Dr. T. Gilbart Smith, physician to the London Hospital and to the Royal Hospital for Diseases of the Chest, City-road. Dr. Gilbart Smith was only in his fifty-sixth year and the news of his sudden death has come as a shock to many friends.

Dr. William Gayton, who will shortly cease to hold the office of medical superintendent of the North-Western Fever Hospital after 34 years' service under the Metropolitan Asylums Board, has been presented by his medical colleagues with a silver tea service on his retirement.

1901 CENSUS: GENERAL REPORT.

THE concluding volume of the reports of the Census of 1901 has been published in the course of the week. This report is signed by the Commissioners, Mr. W. Cospatrick Dunbar, Mr. Noel A. Humphreys, and Dr. J. F. W. Tatham. Including appendices it occupies 375 pages and contains much interesting statistical matter. In justification of the lateness of its appearance the Commissioners explain that in addition to the magnitude of the work itself a number of unforeseen obstacles have from time to time arisen to prevent the completion of the final report as soon as was anticipated. They express the hope that the measures they have taken to insure accuracy will compensate for the delay in the production of the report and that the conclusions therein set forth will bear the test of reasonable criticism. Whilst fully appreciating the nature of the difficulties with which the Commissioners have had to contend, amongst which changes in the official staff have probably had a share, we think that in the present instance the delay, which the Commissioners state to have been unavoidable, is the less to be regretted because, with a few exceptions, the information contained in the report might have been culled from the census volumes already issued, it being simply a question of summarising facts scattered through the pages of some 50 county parts. After a rapid survey of the 191 pages of letterpress we have marked for notice a few salient points which seem especially interesting to our profession. For the rest we refer them to the report itself.

With the aid of the table of contents it is easy to recognise the order of arrangement of the report which is appropriately introduced by an interesting summary of census legislation during the past century. We note that instead of following the plan of distributing the census returns in three volumes it was decided, as more generally convenient, to publish the tabular matter of 1901 for each county separately, so that each county part should contain the whole series of census facts for the county and its various subdivisions. Accordingly, these parts were published as soon as they could be prepared in the order determined by their population; thus the part for the county of London, in which the particulars were given for more than 4,500,000 people, or about one-seventh of the population of England, was obtainable by the public in January, 1902, the part for Lancashire and Yorkshire following in rapid succession, the entire series being completed in February, 1903. The county parts were followed in April, 1903, by a volume of summary tables, being for the most part aggregates of the tables in the county volumes. In October of the same year there was issued an alphabetical index of the names of counties, boroughs, and other areas dealt with in the entire series of tables, together with their populations, and references to the pages in the county parts in which they may be found. The issue of the present general report completes the publications of the 1901 census.

Among the sections of the report which chiefly interest medical men is one on Physical Infirmities. Considerable skill and care appear to have been expended in the preparation of this section which contains a large amount of important information in no way derivable from the census returns. For convenience of description the physically afflicted are classed as follows: (1) the blind; (2) the deaf and dumb; and (3) the insane. Concerning the above-named infirmities the Commissioners remark that the machinery of an ordinary census is but imperfectly adapted to furnish the requisite particulars with that degree of accuracy which is essential for statistical purposes. It is because experience has impressed them with this conviction that they have abstained from entering into minute details which, had the data been more trustworthy, would have proved highly instructive and useful. In discussing questions concerning the relative prevalence of blindness the main difficulty lies at the threshold and consists in the adoption of a uniform standard to which all cases of blindness should be referred. What is "blindness"? is the important point to settle. The question has long occupied the attention of philanthropists in England and in other countries and the Commissioners think that those who may be responsible for the arrangements connected with the next census should take steps to obtain expert opinion as to what standard of vision should be held to constitute "blindness" and also to determine whether any additional methods should be adopted in order to obtain, if possible, more accurate returns of the number and condition of the blind. Similar remarks are applicable to the case of the deaf and dumb. For if the standard of "stone deafness" be abandoned in the case of those returned simply as "deaf" each individual must be left to adopt for insertion in the "occupiers' schedule" his own definition of what constitutes "deafness." The report contains numerous tables setting forth the numbers of the physically afflicted under each of the headings here specified. The proportion of blind persons in the population has diminished at each successive enumeration since 1851, in which year particulars of those afflicted in this manner were ascertained for the first time. It will, however, be noted that although the decrease in the proportion of the blind in the latest intercensal period was still considerable, yet the rate of decrease which had obtained between 1871 and 1891 has not been maintained since the latter year. During the decennium 1891–1900, as also in recent previous intercensal periods, there has been a decrease in the proportion of blind children in the country generally, and this lends support to the contention in the general report for 1891 that the decrease may be due to the more efficient treatment of purulent ophthalmia and other infantile maladies which may result in blindness. In this connexion there appears in the report a valuable paragraph showing the successive steps by which the "present position of matters relating to the blind" has been attained. To this paragraph we are indebted for much interesting information that is new to us, as it contains a categorical statement of the various statutory and other provisions by means of which amelioration in the sad condition of the physically afflicted has been affected.

Coming to that section of the report which deals with the insane the Commissioners seem to concur in the doubt entertained by their predecessors as to whether the value of the information relating to mental infirmities that may be obtained from the ordinary census schedules is sufficient to warrant the continued demand for such details at the hands of the English householder. It appears that in arranging the "occupiers' schedule" for the recent census, with a view to secure greater accuracy in the returns of the insane, a change was made by substituting the term "feeble-minded" for "idiot." This change was adopted as an experiment at the suggestion of persons officially concerned in the guardianship of the insane, who represented to the Commissioners that this substitution would certainly lead to greater accuracy in the returns, the term "idiot" being regarded as opprobrious and as likely to cause concealment of the truth. This substitution has doubtless resulted in the acquisition of more accurate returns concerning the number of insane children, but it has tended to the destruction of the returns as a means of comparison with similar data at previous censuses and this latter result the Commissioners greatly deplore.

AN OLD CHYRURGEON.

"THIS Book is in no way right but in Johannem Baxter hand, for he is the true owner of it. May ye 12, 1655." These words—"A damned cramp piece of penmanship as ever I saw in my life"—were written on the fly-leaf of an old worm-eaten volume which lay in the "twopenny box" of a London bookseller. The book was a collection of medical directions, formulæ, and aphorisms written by the once famous Nicholas Culpeper, "student in Astrology and Physick," and now that the methodical, and doubtless worthy, Johannes Baxter is no more we need crave no man's pardon for annexing, exploring, and enjoying its yellow, old-world pages. And indeed there is much therein recorded that is of more than passing interest and of the chief features none is more striking than the number of cures prescribed which became obsolete and discredited later, only to be rediscovered with much pomp and ceremony nearly three centuries afterwards. "Let his drink be water ..... boiled," for example, is a caution which was re-issued by the Battersea authorities only as recently as last month; and similarly, though we dare hardly claim that "the lungs of a fox beaten into powder" is a sovereign remedy for consumption—unless, indeed, the fox be tuberculous and inoculation

is here foreshadowed—yet Culpeper must be allowed full credit for the following passage :—

A most admirable remedy—if not the best of remedies for a Consumption, is to goe into the Country in Plowing time and follow the Plow, that so the smell of the earth being newly broke up may be taken in at the nose: if this may not be, by reason of the season of the year, or poverty of the Patient, then let it suffice to go out into the field every morning, and dig up a fresh turfe, and smell to it an hour or two together.

The character of Nicholas Culpeper as he stands self-revealed in his book shows him to have been of the proper professional stuff. He is confident in his own powers, for at the outset he addresses his "Worthy Readers" thus :—

MY WORKS . . . . have merited such just applause in the world, though envied by some illiterate Physicians, that I am the more confident to goe on doing that good which you have received by my former labours.

And again he writes :—

I revised this Treatise of FEAVERS: the Method of which was Galen's. This I am confident, it containeth most excellent Truths.

But he is not always so satisfied with himself or others: in treating of the "Mare or incubus" (in modern terms, nightmare) he adds a note :—

I have been myselfe strangely troubled with this disease since the writing hereof, and in a farre different manner from what here is written: but the Margent is too small to hold the Story.

And again, in discussing Melancholie he adds,

Had this been to do again, I could have done it 10 times better.

So, too, as regards others, though in his "Synopsis of Simples" he is an avowed Galenist, elsewhere we read :—

Galen maketh great stir, and so also doth Hippocrates, to prove two sorts of Vertigo ..... All Gallen's (*sic*) words may not be Authenticks: no, nor Hippocrates his neither, and neither Fuchsius nor myself were nor are so simple but we know ..... .

One feature about the book under discussion is the essentially personal tone in which it is written.

"Be sure you doe not drinke the oynment and anoynt your throat with the syrup." "I know no reason why the curious should not make it into a syrup." "Goat's milk, or if you cannot get that, use what liquor you please. ....." "Drink Malmsey—or if you have not that, Muskadell." "But what affinity is between these two—viz., the Goat's Liver with the Eyes—seeing they have neither the same substance nor the same temperature? This then is strange." "Let such as are troubled with red faces abstaine from salt Meats ..... Garlick, Onions, and Mustard, yea if he be a Welch Man or Woman he must abstain from roasted Cheese and Leeks, and that is Hell upon earth to them."

These and many more *obiter dicta* show the friendly relations which existed between doctor and patient or nurse; only in more scientific writings on Arthriticalls, Renalls, and the like is a more impersonal attitude maintained. On two points our author was well equipped for his profession. In the first place, in accordance with Aristotle's dictum, he had experienced the evil in himself, for on one occasion only "much and vast expence of Physicke" cured him. And again he writes :—

Have a care of trying quaint experiences, it had once almost cost me my life in doing it upon mine own body.

Secondly, he approached every question with an open mind. Every means to the desired end was welcomed and judged on its merits. Open-air cures, water cures, anti-toxins, homœopathy, allopathy, are all foreshadowed in his system, and we can see how Christian Science becomes in part defensible when we read the following extracts :—

To Make Children's Teeth Cut.

Take the Tooth of a Colt of a Yeare old, and hang it about the neck of the Child, and this will doe it, if Minzaldus say true. And now give me leave to quote an experiment of my own, one of my children breeding teeth extreme hardly it seemed to be impossible to get a Colt's tooth (of a yeare old) wherefore I bought a Calves head and took one of its teeth and hung about its (!) neck, and the very first night three of its teeth cut, which because it's very unusuall so many teeth should cut in one night, I cannot but ascribe some virtue to the medicine. Besides all this I am of opinion that the tooth of a dead man hung about the neck of a child will do it far better than either. I am not determined to give my reasons at this time, yet will I give you a verisimile for it, the Tooth of a dead man born about a man instantly suppresseth the paines of the teeth, as I have often found my selfe, when all other remedies have failed me, and if this be true, why not the other?

Again, "of melancholie"—

Myselfe knew one, this present year 1645 that thought him selfe only a man, and all other men beasts that came to devour him, and stood with a staff to beat every one that came neer him; *whom I perswaded that he was made of a black pot*, and if he did not speedily get him into his house, I would throw a stone at him, and break him: which was so upon his imagination, that he threw away his staffe and ran in, and would suffer none to touch him for feare they should break him. This is caused through excessiveness of some passion as love joy griefe etc., or through much study, watching, etc., or the eating of wicked and melancholicke meats. I want room, guesse the rest by these (!).

This last sentence, ascribing properties to food, which are usually confined to human beings, is typical of much of Dr. Culpeper's writing. Herbs are talked of in this way—a special condemnation being reserved for onions and garlick "which be malignant"; and similarly when "meat" is referred to as "hot and moist" or "cold and dry" it is in a non-culinary sense that the words are to be understood. Much of the language of the book is of course determined by the theories prevalent at the time and of these theories none was more prominent than that which ascribed all the ills of mankind to humours of various kinds and degrees, and when once the practitioner's task has been reduced to the formula "Follow his humours," the prominence of dieting in the treatment follows as a matter of course. Unfortunately, medical science did not rest content with dietings, cordials, cephaliques, and "induction of sneezing by Betany." In most cases bleeding is prescribed and one shudders to think of the patient of whom it is written: "You must bleed him *often*, *because all* his blood is corrupted." Almost every complaint, "melancholick," "feaver," what you will—is supposed to be amenable to this sovereign cure, and a climax is reached when bleeding of the nose (if not checked by the "smelling to a live toad" or even less savoury substances) is to be stopped "by opening a veine in the ear!"

But we have not yet mentioned the weakest point in our old chyrurgeon's armour. He styles himself "late Student in Astrology and Physick," and it is evident from his writing that he thought the former qualification to be not the less valuable of the two. "Oyle of Vervaine is medicinall for the Headache: let it be gathered in the day and houre of Venus, the ascending fortunately." "For the Megrim (migraine) comb the head ..... with a combe made of the horn of a Ram (I suppose it were best when the Sun is in Aries or at least when Mars is there); and this may doe it—for aught I know—if the disease lie within or without the skull." And again: "Both for this" (a "second dayes" Ague) "and quotidian Agues I have never missed cure by giving only Cinquefoil, gathered in the hour of Jupiter, if it be possible, he being above the earth: and truly I think it would be the better if the moon were aspected to him: but I never observed it." "The right eye of a man or the left of a woman are under the Sun: the left eye of a man, the right of a woman, are under the Moone"—which facts are emphasised as being of vital importance in curing "A Pin and Web in the Eye." But it is needless to multiply examples. "Guess the rest from these," and from the "Signes of a Plague to Come"—chief of which are the "meetings of superior Planets, whereby not only the time but also the place where the Pestilence will most rage may be gathered: as this Autumnall Pestilence of 1645 was by Mr. Bookerin his Almanack which was penned at Midsomer 1644." "But the learned in Astrologie may satisfie themselves without me," he adds. Only the layman reads such signs as have recently been manifested, "cold weather out of its season," "dark and troubled aire," or "birds forsaking their nests."

We have travelled far since 1655 and astrology has been relegated to the position of a rogue and a vagabond, but in those days it was an accredited science and its dicta were as implicitly believed as was, we doubt not, the following racy advice as to taking an "earewig out of the Eare":—

Take an old Apple, and cut it in two pieces, and lay one piece to the Eare and lie down upon that side, and the Earewig will come out to the Apple, it seems they love Apples better than Eares, 'tis a wonder they are not called Applewigs.

Such statements provoke a contemptuous smile now, yet they were written by one who was in his own day the great successor of Hippocrates and Galen, who could pour contempt upon "our pitiful physicians" and on those who, "being ignorant of Astrology, cannot give a reason of the Physick they prescribe, a Parrot may be taught to be as learned," and who could write at the conclusion of his work, "Venitq. salutifer orbi.—Nich. Culpeper."

THE FOLKESTONE CONGRESS AND THE SANDGATE SCANDAL.

GENERAL propagandism is undoubtedly the main object of such congresses as that just held at Folkestone by the Royal Institute of Public Health. Doubtless the members learn a good deal from each other. Life is short and there are so many phases to public health questions that no one

has the time to master them all. Consequently it is an advantage to hear a summary giving the results of investigations that have been undertaken with more than usual care. The criticism the papers call forth are equally instructive. But though such discussions render the congresses in a measure self-educating, nevertheless their main usefulness is due to the impression they produce on the outside general public and its consequent reflex influence on legislature. The local papers give lengthy reports of the proceedings. There are festivities at which the leading sanitary reformers coming from all parts of the country meet and talk with the notable inhabitants of the town where the congress assembles. This is useful in regard to general questions such as the purity of the milk-supply, physical degeneration, the hygiene of schools, &c., but it is still more effective and fruitful if there happens to be some local grievance to which it is necessary to draw public attention. This was the case at Folkestone and it is satisfactory to note that the congress fully acquitted itself of its task in this respect. Evidently the most useful purpose to be served by the meeting at Folkestone was to help the local efforts that are made to do away with the so-called sanatoriums for the treatment of tuberculous patients at Sandgate. This is at once a local and a national question, and the discussion which arose on the subject, together with the resolution adopted, fully confirmed all that we have published in regard to Sandgate. Full freedom of discussion was allowed and this is proved by the fact that a speaker was permitted to declare that vaccination was the greatest fraud of the century and was supported by the medical profession because they made money out of it. It would have been easy therefore for anyone to have pleaded at least extenuating circumstances in favour of the Jones homes if it had been possible to say anything on that score. But no such attempt was made. The only effort made was to shield the boards of guardians from blame, and this not because the Jones homes were proper places to send paupers suffering from tuberculosis but simply because the guardians did not know of any other place. Then, again, at the meeting for the closure of the congress, when all the sections assembled in the Woodward Hall together with several members of the public, the resolution carried in the Section of Preventive Medicine was read out. This resolution, if applied, would render such places as the Jones homes impossible, yet no protest whatsoever was raised. The large and general assembly then voted unanimously that this and the other resolutions carried in the section should be handed over to the council of the Royal Institute of Public Health with the request to do all that is possible to carry out the desires expressed.

The Mayor of Folkestone was in the chair; other local authorities and notabilities were sitting round. The resolution, which had been seconded by the medical officer of health of Sandgate, was read out very distinctly. The Jones's homes are houses that form part of the main street of Sandgate and have no grounds of their own. But the resolution says that sanatoriums "should stand in their own grounds in an isolated position away from the general population." The Jones's homes are entirely dependent on the Jones family. These irresponsible persons may occasionally resort to the advice of a medical practitioner but there is no guarantee that they will follow such advice nor are their any means of compelling them to do so. The proprietors of the Jones homes have no professional standing or reputation to maintain. They are lodging-house or boarding-house keepers, free to accept or reject any advice that may be given. But the resolution carried in the Section of Preventive Medicine says that such homes should "be placed under the absolute control of fully-qualified medical practitioners." The congress was held within two miles of the Jones homes. The advocates or partisans of these institutions, if such exist, might have made themselves heard. Not a word in their defence was uttered. Nothing could be more conclusive. No better qualified and no more emphatic condemnation could have been uttered. There were members of the congress coming from all parts of the country who had studied the subject of sanatoriums for the treatment of tuberculosis both at home and abroad and there were others who, living at Folkestone or Sandgate, knew all about the local circumstances. It is from such an assembly as this that an emphatic and unanimous pronouncement has been obtained, and not a voice was heard, not a word was uttered, in defence of the Jones homes. What, it may well be asked, will be done in response to so striking a demonstration? The Local Government Board can surely no longer affect to ignore the question. The county council of the district must now feel that it is bound to exercise its powers to the uttermost, while the nation at large will awaken to the fact that, though foremost in so many matters of sanitary reform, England is behind several European countries in regard to sanatoriums for the treatment of tuberculosis. The Poor-law Guardians are said to spend £1,000,000 per annum merely for the treatment of this disease and yet some among them still send sufferers to the Jones homes. The debate at the Folkestone Congress has shown that something better than this can and must be done. Perhaps after all the Sandgate scandal will ultimately prove to have been a blessing in disguise, for it has forced the general question of popular sanatoriums for the treatment of tuberculous patients upon the public attention. After the pronouncement made by the Royal Institute of Public Health at the Folkestone Congress the whole problem must be taken seriously in hand.

Looking Back.

FROM

THE LANCET, *SATURDAY*, AUGUST 12, 1826

FOREIGN DEPARTMENT.

On the Traffic with Leeches. By Dr. Kunzmann of Berlin. (Hufeland's Journal der Pract. Heilkunde, March, 1826.)

The increased demand for leeches during the last 20 years, and the scarcity of them in France, America, and particularly in England, compared with the abundance of these creatures in Germany, Silesia, and Poland, has gradually given rise to a trade with these animals, which is much greater than one would at first sight be inclined to believe. How profitable this trade must be, may be learned from this fact; that Apothecaries in Paris and London find it to their advantage to send men from these towns to procure or cause to be procured these animals for their use, and to convey them to these capitals. This, however, is less remarkable when we consider that in the year 1819, the expense for leeches alone in the Parisian hospitals was 4,800 sterling. In the year 1823 it was nearly 7000 guineas. According to Sarlandiere the yearly sum paid for these animals, for the hospitals in France, is upwards of *one million and a half of francs*, or in English money £60,000! Not less than *seven million two hundred thousand of these animals* are annually sent to England. The merchants buy them in summer for 12 rix dollars (36 shillings) a thousand; in winter they pay 30 to 45 dollars; a price which they can very well afford to give, for according to Boehr's statement, a shilling or eighteen pence will be sometimes paid a piece in the shops of London.

The mode that the leech merchants transport the animals is different. Some make use of wooden vessels, which have been carefully cleaned with boiling water, and which must have contained neither salt, nor tobacco, nor the like. In this vessel from 2 to 3000 are placed without water. In 36 hours afterwards, and just before they are put into the waggon, one fourth part of the vessel is filled with water.

As the young animals attack the old, care is taken by the merchants not to put these two together. When the journey is not above eight days, the animals in general live, but if the period of their transportation exceeds that, the greater part of them will die. The mortality is still greater when the weather is warm, or there has been thunder.

Another set of people, particularly the French merchants, transport these animals in a linen bag, which has been well washed, without soap, however, and in order to avoid the bad consequences of shaking during the transportation, they carry them. When thunder comes on they thrust bag and leeches into any marsh they find on the way, but not in a running stream. When the place is at no great distance, they put into one bag as many as it can hold. The better way seems, however, to be that we have already adverted to, transporting them in small numbers in bags.

The great object of the above statement respecting the quantities of leeches used, is to show the probable danger there exists of the supplies of these animals being soon

exhausted, and to propose measures to be taken to prevent such a dreadful event. The alarm, however, is unfounded; and if it were not, the plan proposed of bringing them all together in one large marsh, or in places constructed for them, would be much more likely to create a dearth of these animals sooner than double the present consumption.

Public Health and Poor Law.

LOCAL GOVERNMENT BOARD.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

South Shields County Borough.—Dr. J. J. Boyd draws attention to the absence of powers for the inspection of coal mines on the part of the sanitary staff and he suggests that owing to the lack of sanitary supervision coal mines may be instrumental in promoting the spread of enteric fever. During 1903 30 per cent. of the wage-earning males who were affected with enteric fever in South Shields were employed in coal mines, whereas only 8 per cent. of the male population over 15 years of age are thus engaged. These facts show, Dr. Boyd thinks, an undue incidence of the disease in miners. He has also noted instances of apparent personal infection among those working on the same "shift" in a mine. This is a subject well worth further study. As a rule there are, we believe, no provisions made for the disposal of excreta and each miner selects the most convenient spot for the purpose, there being, however, an understanding that no spot immediately to the windward of the gang shall be chosen. Certainly, as Dr. Boyd suggests, the recent appearance of recognisable ankylostomiasis in our mines is an additional reason why proper precautions should be taken.

Borough of Blackpool.—Dr. F. J. H. Coutts regrets the fact that many cases of pulmonary tuberculosis which are sent to Blackpool for the purpose of treatment are not in a stage of the disease for which this somewhat invigorating climate is suitable. Early cases of the disease in which there is no rapid breaking-down of lung tissue and where the general condition is good often do well in Blackpool but patients who are unable to stand the strong winds go rapidly to the bad. It is to be hoped that the medical practitioners who are in the habit of sending unsuitable cases may be warned by Dr. Coutts, as this indiscriminate treatment of all stages of pulmonary tuberculosis is much to be deplored on professional as well as humanitarian grounds. There was in Blackpool, as in the country as a whole, a slight incidence of enteric fever during 1903 and, in so far as Blackpool is concerned, Dr. Coutts is inclined to ascribe part of the reduction to the "oyster scare" which operated partly in preventing the eating of oysters and partly by making oyster merchants more careful as to the source from which their wares were procured. Moreover, in Blackpool the mussels which formerly were potent for harm have been stripped from the sewer outfall pipes and from the piers and taken out to sea. Unfortunately the cockles and mussels sold in Blackpool are procured from other sources which, judging by results, are by no means free from the risks of specific contamination. We shall all agree with Dr. Coutts in his desire that shell-fish should be under better control. Watercress also appears to have spread enteric fever during 1903 and there is no doubt that this is another raw food which requires more control.

Borough of Macclesfield.—The education committee of this borough has appointed Mr. J. Hedley Marsh, the medical officer of health of Macclesfield, to be its medical officer and a detailed survey of the schools and of their sanitary condition has already been made. In four out of the 16 schools privy-middens still exist. The medical officer is now engaged in an examination of the physical and mental conditions of the children with a view to ascertain *inter alia* whether any of the children are suffering from want of food or from injudicious feeding. As regards physical training much seems to have been done already in Macclesfield through the agency of the Macclesfield Patriotic Association which has for some years past instituted a system of carefully conducted physical training.

Southall-Norwood Urban District.—In discussing the question of infantile mortality Dr. J. D. Windle expresses doubt as to the expediency of promoting a supply of sterilised milk. *Clean* milk does not, he thinks, require sterilising and he regards it as beginning at the wrong end to allow milk to get into such a condition that it needs sterilising. Such milk engenders, in his view, a false sense of security in that it only remains sterile "so long as it is stored with the strictest precautions against contamination." Here Dr. Windle hardly does justice to milk sterilised in bottles, as such milk if unopened will remain good for years. But notwithstanding this, there is much to be said for the view that a supply of fresh, pure, uncontaminated milk is the great desideratum of the present day. Both chemical preservatives and sterilisation tend in some degree to lead to carelessness in the matter of cleanliness and there are certain drawbacks to both methods of preservation, especially the former. All chemical preservatives in milk should, in our view, be absolutely prohibited. Dr. Windle thinks that it will be many years before the present Dairies, Cowsheds, and Milkshops Order provides us with pure milk and here we agree with him. Moreover, we are not indisposed to follow him in his somewhat heroic proposal for the establishment of municipal cowsheds and dairies, by which he understands "places where the housing of the cattle and the milking, collection, and distribution of milk for the purpose of infant feeding only would be carried out on scientific principles under official supervision, each dairyman paying his proportionate rent for the use of the premises." The idea is excellent but Dr. Windle goes perhaps somewhat beyond the bounds of discretion when he suggests that it should be illegal to sell milk for infant food from any other source. To place such a premium upon the milk of any given institution would be to destroy the private industry and a step such as this would invoke the hostility of the whole trade. Dr. Windle cannot have had much experience of legislative difficulties or he would content himself for the present with the establishment of the suggested models, leaving it to time to develop the idea.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 7740 births and 5785 deaths were registered during the week ending August 6th. The annual rate of mortality in these towns, which had been 13·7, 14·1, and 16·4 per 1000 in the three preceding weeks, further rose last week to 19·8 per 1000. In London the death-rate was 19·6 per 1000, while it averaged 19·8 per 1000 in the 75 other large towns. The lowest death-rates in these towns were 6·5 in Southampton, 7·7 in Smethwick, 9·8 in West Hartlepool, 10·1 in Grimsby, 10·2 in King's Norton, 10·8 in Croydon, and 10·9 in Hornsey; while the highest rates were 26·3 in Stockport, 26·8 in Birkenhead, 30·7 in West Ham, 32·1 in Bootle, 33·6 in St. Helens, and 37·6 in Liverpool. The 5785 deaths in these towns last week included 2058 which were referred to the principal infectious diseases, against 506, 792, and 1255 in the three preceding weeks; of these 2058 deaths, 1750 resulted from diarrhœa, 118 from measles, 95 from whooping-cough, 46 from diphtheria, 20 from scarlet fever, 22 from "fever" (principally enteric), and seven from small-pox. No death from any of these diseases was registered last week in Hastings, in Tynemouth, or in West Hartlepool; while the highest death-rates from the principal infectious diseases were recorded in St. Helens, East Ham, Walthamstow, Birkenhead, Stockport, Aston Manor, West Ham, Bootle, and Liverpool. The greatest proportional mortality from measles occurred in Bradford, Rhondda, Birkenhead, Hull, and Bootle; from diphtheria in Bradford and Halifax; and from diarrhœa in Walthamstow, Bootle, St. Helens, East Ham, Stockport, West Ham, Aston Manor, and Liverpool. The mortality from scarlet fever, whooping-cough, and "fever" showed no marked excess in any the large towns. Of the seven fatal cases of small-pox, two belonged to Stockport, and one each to Gateshead, Liverpool, London, Manchester, and Warrington. The number of small-pox patients in the Metropolitan Asylums hospitals at the end of last week was 32, against 62, 51, and 46 at the end of the three preceding weeks; two new cases were admitted during the week, against seven, six, and seven in the three preceding weeks. The numbers of scarlet fever cases in these hospitals and in the London Fever Hospital, which had been 1698, 1754, and 1784 on the three preceding Saturdays, declined again to 1758 on Saturday last, August 6th; 166 new cases were admitted during the week, against 229, 234, and 243 in

the three preceding weeks. The deaths in London referred to pneumonia and diseases of the respiratory system, which had been 155, 120, and 118 in the three preceding weeks, further fell last week to 112, but were five above the number in the corresponding period of last year. The causes of 48, or 0·8 per cent., of the deaths registered in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Leicester, Salford, Bradford, Leeds, Sheffield, Hull, Newcastle-upon-Tyne, and in 52 other smaller towns; while the largest proportions of uncertified deaths were registered in Handsworth, Middlesbrough, Barrow-in-Furness, and South Shields.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been 14·8, 15·7 and 14·1 per 1000 in the three preceding weeks, rose again to 14·6 per 1000 during the week ending August 6th, and was 5·2 per 1000 below the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 9·1 in Leith and 11·8 in Paisley to 15·3 in Dundee and 23·1 in Perth. The 483 deaths in these towns included 48 from diarrhœa, 26 from whooping-cough, five from measles, three from "fever," two from diphtheria, and one from scarlet fever. In all, 85 deaths resulted from these principal epidemic diseases last week, against 53, 68, and 58 in the three preceding weeks. These deaths were equal to an annual rate of 2·6 per 1000, which was 4·4 per 1000 below the mean rate last week from the same diseases in the 76 large English towns. The fatal cases of diarrhœa, which had been 19, 23, and 24 in the three preceding weeks, further rose last week to 48; 32 occurred in Glasgow, four in Edinburgh, four in Dundee, and four in Aberdeen. The deaths from whooping-cough, which had been 22, 21, and 19 in the three preceding weeks, rose again last week to 26, of which 15 occurred in Glasgow, four in Paisley, and three in Edinburgh. The deaths from measles, which had been six, 12, and seven in the three preceding weeks, fell last week to five; two of these occurred in Greenock. The fatal cases of "fever," which had been three, three, and four in the three preceding weeks, were three last week. The deaths from diphtheria, which had been two, three, and two in the three preceding weeks, were again two during the week under notice. The deaths from scarlet fever, which had been two, three, and two in the three preceding weeks, fell to one last week. The deaths referred to diseases of the respiratory organs in these towns, which had been 49, 75, and 55 in the three preceding weeks, fell last week to 47, and were seven below the number in the corresponding week of last year. The causes of 17, or more than 3 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 19·3, 17·5, and 17·9 per 1000 in the three preceding weeks, further rose to 21·2 per 1000 during the week ending August 6th. During the past four weeks the death-rate has averaged 19·0 per 1000, the rates during the same period being 15·8 in London and 13·8 in Edinburgh. The 154 deaths of persons belonging to Dublin registered during the week under notice showed an increase of 24 over the number in the preceding week and included 25 which were referred to the principal infectious diseases, against 18, 15, and 12 in the three preceding weeks; of these, 15 resulted from diarrhœa, four from whooping-cough, three from measles, two from diphtheria, and one from scarlet fever, but not any from small-pox or "fever." The 25 deaths were equal to an annual rate of 3·4 per 1000, the death-rates last week from the principal infectious diseases being 7·1 in London and 1·7 in Edinburgh. The fatal cases of diarrhœa, which had been two, five, and four in the three preceding weeks, rose last week to 15. The deaths from measles, which had been ten, five, and four in the three preceding weeks, declined to three last week. The fatal cases of whooping-cough, which had been three, three, and two in the three preceding weeks, rose last week to four. Diphtheria caused two deaths last week against one in the preceding week. The 154 deaths in Dublin last week included 43 among children under one year of age and 37 among persons aged 60 years and upwards, each of these numbers showing a considerable increase. Five inquest cases and two deaths from violence were registered; and 48, or over 31 per cent., of the deaths occurred in public institutions. The causes of ten, or more than 6 per cent., of the deaths registered in Dublin last week were not certified.

VITAL STATISTICS OF LONDON DURING JULY, 1904.

IN the accompanying table will be found summarised complete statistics relating to sickness and mortality in the City of London and in each of the metropolitan boroughs. With regard to the notified cases of infectious diseases it appears that the number of persons reported to be suffering from one or other of the nine diseases specified in the table was equal to an annual rate of 6·1 per 1000 of the population, estimated at 4,648,950 persons in the middle of the year. In the three preceding months the rates had been 5·1, 5·9, and 5·4 per 1000. The rates were considerably below the average in Paddington, Chelsea, the City of Westminster, Hampstead, Stoke Newington, the City of London, and Greenwich; while they showed the largest excess in St. Pancras, Shoreditch, Bethnal Green, Stepney, and Bermondsey. The prevalence of small-pox during July showed a marked decline from that recorded in the preceding month; among the various metropolitan boroughs the greatest proportional prevalence of this disease occurred in Finsbury, Shoreditch, Bethnal Green, Stepney, and Camberwell. The Metropolitan Asylums hospitals contained 46 small-pox patients at the end of last month, against 104, 118, and 74 at the end of the three preceding months; the weekly admissions averaged eight, against 24, 23, and 13 in the three preceding months. Scarlet fever was more prevalent last month than it had been during June; this disease was proportionally most prevalent in St. Pancras, Islington, Hackney, Bethnal Green, Stepney, and Woolwich. The number of scarlet fever patients in the Metropolitan Asylums hospitals, which had been 1515, 1632, and 1599 at the end of the three preceding months, rose to 1764 at the end of last month; the weekly admissions averaged 241, against 173, 219, and 206 in the three preceding months. The prevalence of diphtheria last month showed a marked increase over that recorded in the preceding month; among the various metropolitan boroughs the greatest proportional prevalence of this disease occurred in Fulham, the City of London, Bethnal Green, Stepney, Poplar, and Deptford. The Metropolitan Asylums hospitals contained 763 diphtheria patients at the end of last month, against 718, 755, and 681 at the end of the three preceding months; the weekly admissions averaged 124, against 97, 113, and 95 in the three preceding months. The prevalence of enteric fever last month showed a small increase over that recorded in the preceding month; this disease was proportionately most prevalent in Hackney, Finsbury, Stepney, Southwark, Bermondsey, and Greenwich. The Metropolitan Asylums hospitals contained 67 enteric fever patients at the end of last month, against 62, 51, and 62 at the end of the three preceding months; the weekly admissions averaged 15, against nine, ten, and 12 in the three preceding months. Erysipelas was proportionately most prevalent in St. Marylebone, Shoreditch, Bethnal Green, Stepney, Southwark, and Bermondsey. The 20 cases of puerperal fever notified during the month included five in Southwark, two in Kensington, two in Battersea, and two in Wandsworth.

The mortality statistics in the table relate to the deaths of persons actually belonging to the various metropolitan boroughs, the deaths occurring in public institutions having been distributed among the several boroughs in which the deceased persons had previously resided. During the four weeks ending July 30th the deaths of 4856 persons belonging to London were registered, equal to an annual rate of 13·6 per 1000; in the three preceding months the rates had been 16·2, 13·9, and 12·5 per 1000. The lowest death-rates in London last month were 6·7 in the City of London, 7·2 in Lewisham, 8·6 in Hampstead, 10·2 in Wandsworth, and 11·2 in Greenwich; while the highest rates were 15·8 in Bermondsey, 16·0 in Holborn, 17·2 in Stepney, 17·7 in Poplar, 20·3 in Shoreditch, and 20·9 in Finsbury. The 4856 deaths from all causes in London last month included 900 which were referred to the principal infectious diseases; of these, three resulted from small-pox, 177 from measles, 28 from scarlet fever, 33 from diphtheria, 90 from whooping-cough, 16 from enteric fever, and 553 from diarrhœa. The lowest death-rates from these diseases were recorded in Paddington, the City of Westminster, Hampstead,

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING JULY, 1904.

(Specially compiled for THE LANCET.)

CITIES AND BOROUGHS.	Estimated population in the middle of 1904.	NOTIFIED CASES OF INFECTIOUS DISEASE.											DEATHS FROM PRINCIPAL INFECTIOUS DISEASES.											Deaths from all causes.	Death-rate per 1000 living.	Deaths of infants under one year to 1000 births.
		Small-pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cholera.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.*	Whooping-cough.	Typhus fever.	Enteric fever.	Other continued fevers.	Diarrhœa.	Total.	Annual rate per 1000 persons living.			
LONDON	4,648,950	32	1104	559	—	109	2	20	344	—	2170	6·1	3	177	28	23	90	—	16	—	553	900	2·5	4856	13·6	140
West Districts.																										
Paddington	146,975	—	23	13	—	3	—	—	4	—	43	3·8	—	—	—	1	1	—	—	—	14	16	1·4	136	12·1	121
Kensington	179,236	—	27	16	—	2	1	2	7	—	55	4·0	—	2	—	2	1	—	1	—	16	22	1·6	163	11·9	134
Hammersmith	117,412	—	12	19	—	3	—	—	6	—	40	4·4	—	—	—	2	3	—	—	—	20	25	2·8	105	11·7	127
Fulham	152,482	—	14	33	—	—	—	1	11	—	59	5·0	—	5	—	1	2	—	—	—	23	31	2·7	152	13·0	137
Chelsea	74,329	—	4	2	—	1	—	—	6	—	13	2·3	—	3	—	—	—	—	—	—	6	9	1·6	70	12·3	149
City of Westminster	177,321	1	24	11	—	5	—	—	10	—	51	3·7	—	2	1	—	—	—	3	—	13	19	1·4	158	11·6	129
North Districts.																										
St. Marylebone	130,337	1	22	12	—	1	—	—	26	—	62	6·2	—	2	2	—	1	—	—	—	19	24	2·4	134	13·4	109
Hampstead	86,663	—	9	4	—	—	1	—	1	—	15	2·3	—	—	1	—	—	—	—	—	5	6	0·9	57	8·6	101
St. Pancras	235,936	1	104	22	—	3	—	1	17	—	148	8·2	—	6	1	—	9	—	2	—	13	31	1·7	270	14·9	153
Islington	341,044	—	123	14	—	8	—	—	18	—	163	6·2	—	30	1	—	6	—	—	—	11	48	1·8	335	12·8	129
Stoke Newington	52,445	—	6	3	—	1	—	1	3	—	14	3·5	—	2	—	—	2	—	—	—	1	5	1·2	49	12·2	89
Hackney	226,266	1	69	35	—	10	—	1	14	—	130	7·5	—	8	1	4	5	—	2	—	34	54	3·1	234	13·5	152
Central Districts.																										
Holborn	57,161	1	12	1	—	1	—	—	3	—	18	4·1	—	3	—	1	2	—	—	—	3	9	2·1	70	16·0	103
Finsbury	98,958	7	28	9	—	3	—	—	3	—	50	6·6	2	7	1	—	3	—	1	—	12	26	3·4	159	20·9	145
City of London	23,482	—	—	5	—	1	—	—	—	—	6	3·3	—	—	—	1	—	—	—	—	—	1	0·6	12	6·7	83
East Districts.																										
Shoreditch	117,033	7	29	22	—	3	—	—	13	—	74	8·2	—	5	3	2	4	—	—	—	38	52	5·8	182	20·3	273
Bethnal Green	130,207	5	71	32	—	4	—	—	15	—	127	12·7	1	15	2	3	5	—	1	—	17	44	4·4	137	13·7	127
Stepney	303,791	4	104	76	—	12	—	1	39	—	236	10·1	—	8	1	6	3	—	2	—	68	88	3·8	401	17·2	167
Poplar	169,905	—	34	41	—	1	—	1	11	—	88	6·8	—	5	3	4	5	—	—	—	39	56	4·3	231	17·7	159
South Districts.																										
Southwark	207,937	—	37	27	—	8	—	5	31	—	108	6·8	—	5	—	—	4	—	—	—	37	46	2·9	245	15·4	144
Bermondsey	129,397	—	35	22	—	5	—	1	16	—	79	8·0	—	9	2	1	2	—	—	—	22	36	3·6	157	15·8	167
Lambeth	310,359	—	50	24	—	8	—	1	13	—	96	4·0	—	22	1	1	9	—	1	—	44	78	3·3	335	14·1	156
Battersea	175,465	—	31	20	—	2	—	2	13	—	68	5·1	—	2	3	—	3	—	—	—	17	25	1·9	177	13·2	109
Wandsworth	257,448	—	39	28	—	5	—	2	21	—	95	4·8	—	5	1	2	6	—	1	—	22	37	1·9	202	10·2	126
Camberwell	268,384	4	80	24	—	8	—	—	22	—	138	6·7	—	8	3	1	5	—	1	—	19	37	1·8	267	13·0	122
Deptford	113,509	—	31	24	—	1	—	1	7	—	64	7·3	—	13	—	1	1	—	—	—	7	22	2·5	134	15·4	111
Greenwich	101,651	—	10	7	—	5	—	—	3	—	25	3·2	—	9	—	—	3	—	1	—	9	22	2·8	87	11·2	108
Lewisham	140,401	—	31	6	—	2	—	—	4	—	43	4·0	—	—	—	—	1	—	—	—	5	6	0·6	78	7·2	70
Woolwich	123,416	—	45	7	—	3	—	—	7	—	62	6·5	—	1	1	—	4	—	—	—	19	25	2·6	119	12·6	145
Port of London	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including membranous croup.

Stoke Newington, the City of London, and Lewisham; and the highest rates in Finsbury, Shoreditch, Bethnal Green, Stepney, Poplar, and Bermondsey. Of the three fatal cases of small-pox registered last month, two belonged to Finsbury, and one to Bethnal Green. The 177 deaths from measles were 14 below the average number in the corresponding period of the ten preceding years; among the various metropolitan boroughs this disease was proportionately most fatal in Islington, Finsbury, Bethnal Green, Bermondsey, Lambeth, Deptford, and Greenwich. The 28 fatal cases of scarlet fever were 24 below the corrected average number; the greatest proportional fatality from this disease occurred in St. Marylebone, Shoreditch, Bethnal Green, Poplar, Bermondsey, and Battersea. The deaths from diphtheria numbered 33 last month, the average number in the corresponding periods of the ten preceding years having been 137; among the various metropolitan boroughs this disease was proportionately most fatal in Hammersmith, Hackney, Shoreditch, Bethnal Green, Stepney, and Poplar. The 90 fatal cases of whooping-cough showed a decline of 49 from the corrected average number; the greatest proportional mortality from this disease occurred in St. Pancras, Finsbury, Shoreditch, Bethnal Green, Poplar, Lambeth, Greenwich, and Woolwich. The 16 deaths from enteric fever were 17 below the average number in the corresponding periods of the ten preceding years. The 553 fatal cases of diarrhœa were 81 below the corrected average number; this disease showed the highest proportional mortality in Hammersmith, Shoreditch, Stepney, Poplar, Southwark, Bermondsey, and Woolwich. In conclusion, it may be stated that the aggregate mortality in London last month from the principal infectious diseases was over 24 per cent. below the average.

Infant mortality, measured by the proportion of deaths among children under one year of age to registered births, was equal to 140 per 1000. The lowest rates of infant mortality were recorded in Hampstead, Stoke Newington, Holborn, the City of London, and Lewisham; and the highest rates in Shoreditch, Stepney, Poplar, Bermondsey, and Lambeth.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Surgeons: A. R. H. Skey to Royal Marine Depôt, Deal; E. R. Grazebrook to the *Cambridge* for the *Undaunted*; R. St. G. S. Bond to Royal Marine Division, Plymouth; C. R. Nicholson to Royal Marine Division, Portsmouth; and A. Woollcombe to the *President* to be lent to Yarmouth Hospital. Surgeon and Agent: R. J. George at Port Isaac.

The following Surgeons have been promoted to the rank of Staff Surgeon: J. C. Durston and A. H. Jeremy, with seniority of Nov. 14th, 1901; R. S. Bernard and M. H. Knapp, with seniority of May 16th, 1902; and R. A. Ross, with seniority of Nov. 12th, 1903.

ROYAL ARMY MEDICAL CORPS.

The undermentioned Captains to be Majors (dated July 27th, 1904):—H. A. Hinge, J. G. McNaught, H. A. Bray, T. McDermott, E. W. Slayter, H. S. Thurston, L. P. More, C. O'C. Hodgens, Brevet Major A. F. Tyrrell, T. P. Jones, W. D. Erskine, A. G. Thompson, G. A. Moore, R. C. Lewis, R. F. E. Austin, H. W. H. O'Reilly, N. Marder, E. H. Condon, G. S. Mansfield, F. G. Faichnie, H. W. K. Read, and A. J. Chambers; (dated July 30th 1904)—F. M. Mangin, C. E. Pollock, W. J. Taylor, B. W. Longhurst, and J. H. Rivers.

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Lieutenant-Colonel J. G. Saville, having resigned his Volunteer appointment, ceases to belong to the Army Medical Reserve of Officers.

VOLUNTEER CORPS.

Royal Engineers (Volunteers): 1st Bedfordshire: Surgeon-Lieutenant G. H. Goldsmith to be Surgeon-Captain (dated August 6th, 1904).

Rifle: 3rd (Dumfries) Volunteer Battalion the King's Own Scottish Borderers: Surgeon-Lieutenant G. R. Livingston is borne as Supernumerary whilst commanding the Scottish Volunteer Infantry Brigade Bearer Company (dated August 6th, 1904). 4th Volunteer Battalion the East Surrey Regiment: Surgeon-Captain W. H. F. Young resigns his commission (dated August 6th, 1904). 2nd Volunteer Battalion the South Staffordshire Regiment: Cyril Stephen Stokes Rigby to be Surgeon-Leutenant (dated August 6th, 1904).

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS).

Welsh Bearer Company: Brigade-Surgeon-Lieutenant-Colonel C. Downing is seconded whilst holding the appointment of Senior Medical Officer to the Welsh Volunteer Infantry Brigade (dated August 6th, 1904).

THE NEW ARMY SCHEME.

Mr. Arnold-Forster took advantage of the occasion of the House going into committee on the Army Estimates on August 8th to make a long supplementary statement as to the nature and extent of his proposals regarding army reform. This was in further elucidation of the scheme which he had previously brought forward. In the discussion which followed the new proposals were somewhat severely and on the whole adversely criticised, the opposition strongly protesting against any advantage being taken of their vote on that occasion by construing it as expressing any approval on the part of the House of the new scheme as a whole. Apart from the extremely difficult nature of the problem in itself Mr. Arnold-Forster had to effect at the same time a financial saving. This he proposes to do by lopping off much useless and redundant material—as far as war service is concerned—for which the nation is paying, and by improving the quality and practically increasing the efficiency and availability of what remains.

One great difficulty which confronts our war ministers is the provision of long-service men for duty in India and the colonies. The nation has to garrison India and the great coaling stations, and three-years' men are ruinously costly for this work. The proposal is to divide the army into two—a long-service force for foreign duties, the men serving for nine years with the colours and three with the reserve; and a short service army of two years and six in the reserve for home duties but available to go abroad in case of war. Out of the long-service army there would be provided a striking force ready to go anywhere on the shortest notice. The idea is, no doubt, a rational and good one and looks well on paper, but would it work in practice? And, short of an experimental trial, how can this be determined?

We said on the occasion of the first appearance of Mr. Arnold-Forster's scheme that it had its good and bad features as well as much that was, and must be, of a tentative and provisional nature, and this seems to have been the opinion of the House of Commons. The new measure is so bold and comprehensive and potent for good or evil that it is only natural there should be pronounced hesitation before adopting it. The short home service army would probably be popular and attract recruits, but it is not so clear that the long foreign service army would do so. We should by long service to some extent probably lessen the amount of enteric fever which proves such a scourge to our troops serving in India. Mr. Arnold-Forster apparently altogether sets aside compulsory service as not only impracticable in the present state of public feeling but as, for financial reasons, prohibitive. For our part we look forward to the time when this country, acting in connexion and taking counsel with her colonies and dependencies, will frame some scheme for the organisation of an imperial army.

ROYAL ARMY MEDICAL CORPS EXAMINATION.

The undermentioned gentlemen were successful at the examination for commissions in the Royal Army Medical Corps:—

Names.	Marks.	Names.	Marks.
W. Byam	590	M. Sinclair	523
C. Ryley	586	E. J. H. Luxmore	512
H. T. Wilson	571	K. A. C. Doig	505
L. V. Thurston	567	H. O. M. Beadnell	503
W. H. Hills	565	H. St. M. Carter	500
P. Dryer	560	R. H. L. Cordner	499
P. C. T. Davy	556	J. P. Lynch	494
J. F. C. Mackenzie	547	A. N. Fraser	490
A. W. Gater	540	N. Low	489
G. A. D. Harvey	536	P. A. Jones	487
H. C. Winckworth	536	C. R. Millar	485
J. Campbell	534	A. T. Frost	482
R. C. Hallowes	531	G. H. Richard	482
H. W. Russell	530	H. C. Sidgwick	482
G. R. Painton	523	J. St. A. Maughan	477

49 candidates entered and 14 of those who passed possessed university degrees.

INDIAN MEDICAL SERVICE EXAMINATION.

The undermentioned gentlemen were successful at the Indian Medical Service examination held on August 1st and four following days:—

Names.	Marks.	Names.	Marks.
H. S. Matson	3543	J. M. Macrae	3181
D. Steel	3519	C. C. C. Shaw	3060
F. H. Stewart	3383	R. D. McGregor	2981
H. A. Dougan	3277	J. W. H. Babington	2979
R. T. Wells	3215	F. B. Shettle	2957
A. H. Proctor	3195	A. S. M. Peebles	2923
A. Cameron	3191		

Of 43 who entered 33 (21 of whom had university degrees) competed for the 13 vacancies.

THE WAR IN THE FAR EAST.

The principal matter connected with the war in the Far East which is at the present time absorbing attention in political circles in this country is not so much the progress of the campaign as the object and motives underlying Russia's action with regard to her volunteer fleet, and the possible result of that action as regards ourselves. The question which many people are putting to themselves is this, Whether Russia is seeking to bring about a rupture with this and another country to save her loss of prestige in the event of her having to withdraw from Manchuria and confess herself defeated by Japan?

Be that as it may, there is a comparative lull in the war news at the present time—the issue of the campaign still hangs in the balance; the decisive battle, so often spoken of as imminent with Kuropatkin's forces, has still to come off, and Port Arthur yet holds out. The weather at the seat of war has for this season been exceptionally dry and hot, the heat having vastly increased the labour and fatigue of the troops in the field and given rise to a good deal of sunstroke and heat exhaustion. The Russian soldiers have been heavily pressed by frequent fights and dispirited by numerous defeats and retreats. It need scarcely be said that troops habitually finding themselves numerically inferior to their enemy and frequently having to yield positions because of their being capable of being turned are very apt to lose their nerve. But it is in such circumstances that the stolid fortitude and obduracy of the Russian soldier show to the greatest advantage and never more so perhaps than has been the case in the present war. We may set aside the enormous estimated losses on the part of the Japanese in their assaults on Port Arthur as at least untrustworthy exaggerations, but there can be no doubt that their losses on these occasions have been considerable and that the capture of Port Arthur has proved, and is still proving, a much more difficult undertaking than has been generally represented. The advent of heavy rains, which if delayed must nevertheless occur, and the delay which has taken place on the part of the Japanese armies in attacking the Russians and cutting off their line of communication with their base, are all in favour of the latter. In the retreat of the Russians from Haicheng the wounded in the fight of July 31st were quickly placed in the hospital train and the Red Cross Society is said to have displayed great rapidity in dealing with them. Many of the unfortunate soldiers were terribly wounded by shrapnel.

The statistical calculations which have appeared in Russia regarding the casualties from wounds and sickness in General Kuropatkin's armies are not to be relied on, but so far as they go they do not indicate anything exceptional in the circumstances. There seems to be a very disproportionate rate of sickness and mortality among the officers as compared with the men of the Russian army, probably attributable to the fact that the mode of life and training of the men render them better fitted to endure the privation and hardships of campaigning. The sick are mostly suffering from dysentery. After the beginning of the rains (from June 13th) the proportion of wounded and especially of sick casualties greatly increased. The *Journal of the Royal Army Medical Corps* for this month contains an instructive article on the Medical Services in the Russian Army by Lieutenant-Colonel J. Hickman, R.A.M.C. (retired).

The *Novosti*, in an article entitled "The War: Doctors and Jews," insists on the necessity of cancelling, at all events for a time, the rule restricting the admission of Jews to medical education. It points out the valuable services the Jewish medical men have rendered on the battlefield and states further that at a time when the number of Jews accepted for the medical faculty in the universities does not exceed from 3 to 10 per cent., and is reduced to *nil* in the Military Medical School, we find that in Kharbin alone there are 45 Jewish military medical men and that these constitute over 50 per cent. of all the medical men to be found there. The population of Russia is sorely in want of all kinds of medical assistance, be it by Russian, German, Jew, Buriatt, or other; therefore it is not in the interest of the people to limit the supply. As to keeping in Russian hands the practice that would otherwise fall into the hands of the Jews it has been clearly shown that although the medical career is wide open to Christians these quite fail to satisfy the wants of the immense Russian population. The medical profession should be thrown open to all, and even then many years will be necessary to educate the required number. Such a step is requisite to inculcate suitable ideas of hygiene amongst the Russian masses, who are at the mercy of quacks and pretenders to mystic knowledge and sorcery, and, on the other hand, there is really no valid reason for hindering such a development.

Correspondence.

"Audi alteram partem."

THE BISHOP OF LONDON'S URGENT APPEAL ON BEHALF OF HIS DIOCESAN BOYS' CAMPS.

To the Editors of THE LANCET.

SIRS,—I hope that the numerous appeals which I have been obliged to address to the public this summer will not prejudice the one which I now make on behalf of our London boys. I am writing this surrounded by 300 happy boys, some bathing, some playing cricket, others acting as sentry and guarding the camp, and all trained and invigorated by a week at the seaside and the healthy activities of camp life. These boys return to-morrow morning, to be succeeded by 600 more, who will arrive for their week in the afternoon.

It would be impossible to imagine a more ideal holiday for boys after the confinement and monotony of their work in London, but although the boys all pay, according to their wages, towards their outing, a large sum is required for tents, the railway fares, and the catering for so large a number, and for the first time for 15 years we are face to face with a serious deficit. I hope that I shall not appeal in vain for so successful and necessary a work. Cheques should be sent to Mr. F. Abel Bloxam, 23, Northumberland-avenue, Charing Cross.

I am, Sirs, yours faithfully,

A. F. LONDON.

London Diocesan Seaside Camp for Working Lads,
Bexhill, July 30th.

NATIONAL LEAGUE FOR PHYSICAL EDUCATION AND IMPROVEMENT.

To the Editors of THE LANCET.

SIRS,—In a leading article in THE LANCET of Jan. 31st, 1903, p. 315, you pointed out that the unfitness for military service to which Sir Frederick Maurice had called attention was not the condition of the population at large but only of a certain section of it. In a letter to THE LANCET of Feb. 14th, 1903, p. 471, I mentioned the fact that records were being constantly broken as supporting your position and as showing that the physique of some classes was improving rather than deteriorating. At the same time I suggested the appointment of a commission to obtain "information as to (1) the causes of physical deficiency; (2) the best means of remedying the defects; and (3) the best means at present available in case that the best means possible cannot as yet be applied." In April, 1903, Sir William Taylor, Director-General of the Army Medical Department, prepared a memorandum of the unfitness of a large proportion of the young men of this country for military service. This memorandum led to the appointment of an "Interdepartmental Committee on Physical Deterioration." This name, as Sir William Taylor remarks (Report of the Commission, pp. 2 and 100), is to be regretted, for it implies a comparison between the past and the present, and as no data exist for such a comparison it is impossible to come to any

trustworthy conclusion. "The principal question for the committee is to inquire into the causes and present extent of the physical *unfitness* that undoubtedly exists to a large extent among certain classes of the population." In other words, the term "physical degeneration" tends to act like a red herring drawn across the trail and divert attention from the real questions at issue, which are not whether the physique of the nation as a whole is better or worse than it was 50 or 30 years ago, but whether (1) it is up to the mark to-day; (2) if not, why is it not? and (3) how are we to get it up to the mark in all classes? The conclusions of the committee are rather remarkable, for in the first they entirely ignore Sir William Taylor's pertinent remarks about unfitness and express the "hope that the facts and opinions they have collected will have some effect in allaying the apprehensions of those who, as it appears on insufficient grounds, have made up their minds that progressive deterioration is to be found among the people generally." One would think that this conclusion was eminently calculated to lull the nation into a sense of security and to impress upon it the idea that no action is required, yet in its third conclusion the committee says that "the pathway to improvement does not lie in the direction of legislative assistance, but that complacent optimism and administrative indifference must be attacked and overcome and a large-hearted sentiment of public interest take the place of timorous counsels and sectional prejudice." If the conclusions had not been printed together and signed by the same persons one would have been tempted to think that the third conclusion (paragraph 426) was a severe comment upon the first (paragraph 424) and a sharp rebuke to the committee for formulating it. But whatever may be thought of these conclusions there can be little doubt as to the soundness of the "recommendations" which the committee makes (report, pp. 84-92), and if these recommendations are adopted the hope which the committee expresses in regard to their beneficial action will be amply justified. But how are these recommendations to be carried out? The committee itself says that it does not rely upon any large measure of legislative assistance. They can only be carried out by the hearty coöperation of all classes and conditions of men and women throughout the country. On July 20th, 1903, a number of men interested in the subject, amongst whom was one of the Editors of THE LANCET, met at the Athenæum Club and discussed the proposal of a National League for Physical Education. The following are the suggestions for consideration they had before them, which appeared in the *Manchester Guardian* of July 23rd, 1903:—

PROPOSED NATIONAL LEAGUE FOR PHYSICAL EDUCATION.

SUGGESTIONS FOR CONSIDERATION.

The objects of the proposed league are:—1. To coördinate the various agencies which are at present working independently of each other for the advancement of physical training. 2. To supply the information and assistance required to complete the work.

I.—A. Before the various bodies or individuals who are trying independently to promote physical education can work together each must know what the others are doing. 1. A list should therefore be prepared of all these bodies, giving very shortly their names, localities, numbers, kind of action, and names of secretaries. 2. A monthly or weekly paper should be started to give information regarding appointments or changes and form a means of communication. It might be called the *Physical Education News*. 3. A larger publication might possibly be advantageous for longer papers on important topics. This might appear quarterly or monthly and be called the *Physical Education Review*.

B. The coördination of the various bodies might be of two kinds: (1) generic; and (2) territorial. 1. All bodies of the same kind—schools, continuation classes, gymnasia, cadets, and volunteers—might learn from the *News* what others engaged in the same pursuits were doing, so that any improvement made by one body could be adopted by others and arrangements made for occasional meetings or contests. 2. The different bodies in each district—i.e., the schools, young men's associations, schools for cookery and housework, girls' clubs, rifle clubs, volunteers, &c.—might learn to work together and to coöperate with those of adjacent districts.

II.—The information wanted to complete the work may be obtained partly by voluntary effort but more easily by Royal Commissions on the Housing of the Poor, on Intemperance, on the Hours of Labour amongst Children. Some of these have already reported and that which is now proposed on the Causes of Physical Deterioration generally may report especially in reference to the hours of work in schools, the accommodation for play, the time for play, and the physical training of children, not only by exercises but by games to develop their bodies, along with a certain proportion of drill to increase their powers of attention and prompt action. The assistance needed would require to be of many kinds—e.g., to have the law so altered that the children should have shorter hours of work and that their work should not be continuously mental. Every hour of study should be shortened to 45 minutes, which we believe to be the rule in Germany, or 40 minutes, which we believe to be the rule in Sweden. During this 15 or 20 minutes in each hour the windows might be thrown open and the room ventilated while the children play or have exercises or have drill outside. To provide playgrounds and playrooms under cover for the children. To provide the necessary instructors for physical exercises. It might be requisite to provide meals at schools at a low charge, and in some instances free, in order that children underfed at home might be able to do their lessons or exercises or even to play properly. The provision of cheap meals at schools would also be useful as affording larger opportunities for teaching cooking to the girls attending school than they could possibly have if no such meals were provided. In cases where the mothers cooked badly the children might be allowed to buy food at school for the purpose of taking home at such a price as would fully remunerate the school and yet be cheaper for the mother than what she could prepare at home. Classes for cookery amongst mothers might also be held, but in any case the girls at school, who will be the mothers of the next generation, will learn to cook. Instruction should be given to all children, and especially to girls, regarding the nature and digestibility of foods and the general laws of hygiene, in relation especially to fresh air, clothing, abuse of stimulants (tea or alcohol), and avoidance of infection. Provision requires to be made for places where girls and lads who have left school and are employed during the greater part of the day in various trades may spend their spare time with enjoyment and profit to themselves instead of wandering round the streets and getting into mischief. For this purpose girls' clubs and boys' drill halls appear to be useful, but their use requires to be greatly extended. If proper arrangement were made for this purpose the numerous premature marriages, which tend to increase a weakly population, might be lessened and the infant mortality would be diminished by the greater ability of the mother to suckle her infant and her increased knowledge of how to feed it afterwards. It is obvious that to carry out the various schemes already mentioned, as well as many others connected with physical education, a great deal may be done by Royal Commissions and Acts of Parliament, but it is almost impossible that they can do it all and in order to obtain physical improvement in all classes to the desired extent all classes in the nation must coöperate and for this reason it is desirable to form a National Physical Education League.

By comparing these suggestions with the recommendations of the committee it will be seen that the objects of the league are to a great extent what the committee recommends, although the recommendations of the committee have a wider scope and will no doubt be adopted by the league as a guide to its future action. About the same time Dr. T. S. Clouston in his address as President of the Royal College of Physicians of Edinburgh put forth a plea for a national health conscience. Since the meeting at the Athenæum a number of the leaders in the Church, the law, education, science, and medicine have given their adhesion to the league and agreed to act as vice-presidents. Amongst others may be mentioned the Archbishop of Canterbury, the Archbishop of York, the Bishops of Chester, Durham, London, Ripon, Stepney, and other bishops, the Chief Rabbi, the Lord Chief Justice, the Attorney-General, the President of the Royal Society, the President of the British Association, headmasters of several schools, and the heads of nearly every medical corporation in the three kingdoms, as well as many of the leaders of the medical profession not holding office. Besides those mentioned there are members of both Houses of Parliament, editors of newspapers and magazines, and many others of distinction and influence who have signified their willingness to support the proposed league. It was not intended to bring it before the public until November but in the report of the commission it is mentioned and therefore it seems advisable to give this short account of it to the medical profession, more especially as the adhesion of every member of the profession is not only warmly desired, but suggestions and criticisms will be welcome and helpful in getting the scheme properly developed before it is submitted to the general public. As the league has not begun to collect subscriptions it has no funds and therefore I am acting as interim secretary until a proper secretary can be obtained.

I am, Sirs, yours faithfully,

August 10th, 1904. LAUDER BRUNTON.

THE LATE SIR JOHN SIMON.

To the Editors of THE LANCET.

SIRS,—May I be permitted to add some gossip to the most able and comprehensive life of the late Sir John Simon, K.C.B., published by you in THE LANCET of July 30th? In common with a number of other young men I have enjoyed the high privilege ever since early boyhood of the great Sir John Simon's kindly friendship and latterly have often visited him in Kensington-square. You speak of his brilliant *salon*. I can remember one of his last large parties; it was a dance to young people but many of their elders were present and many artistic and literary celebrities. The late Sir John and Lady Simon played an intimate part in many artist lives, such as Rossetti's, and could, had they wished it, have revised some biographies

and standard memoirs to considerable advantage, for anything in the nature of malice was far from the minds of those ideal hosts of the old school.

Sir John Simon sprang from a good French *emigré* stock that had taken to commerce in London and he was sent into the medical profession as so many of his neighbours were sent by merchant fathers too timid to venture to give their sons a university education and yet unwilling to bring all their boys up to the counting-house. As long ago as 1833 he began the study of medicine under the famous Joseph Henry Green of St. Thomas's Hospital. The elder Greens and Simons both belonged to the City, but Joseph Henry Green, born on London Wall in 1791, was an idealist, as it were, escaping from mercantile associations, and young Simon was from the first strongly influenced by his tall, languid, dreamy master. Green was the intimate friend of Samuel Taylor Coleridge, who ended his opiated career in the house of Mr. Gillman, the Highgate surgeon, and was known also to Wordsworth. Simon in his "Private Recollections" tells with enthusiasm of a morning spent, by Green's introduction, with William Wordsworth, who read to him a sonnet. Simon and his fellow pupil and afterwards life-long friend, my uncle, the late John Newton Tomkins, F.R.C.S., read Shelley together and were amateurs of literature, English and foreign. Newton Tomkins cherished a lock of Coleridge's hair which he brought from the necropsy, which was performed by Green. It must be remembered that the medical students of that far-off day certainly furnished the then youthful Charles Dickens with the models for Bob Sawyer and Richard Allen. In the homes of their staid Puritanical elders the medical students of the "thirties" were apt to be regarded as savages—medicine men dealing in human bones and addicted to body-snatching and the abuse of tobacco. Quite lately Sir John Simon humorously confessed that in the house of my maternal grandfather he had been relegated to side doors and back stairs and rooms specially set apart. Such treatment implied no specific insult and no offence was taken by the young men themselves, but it is certain that Simon, though he might have had the tobacco habit, in no other way resembled the medical students of Dickens or Albert Smith. These details of student life are trivial enough, but now that Mr. Edmund Image, Mr. John Birkett, and Sir John Simon, the three senior Fellows of the Royal College of Surgeons, have all passed away within a year we shall hear them from few, if any, living lips.

Simon's general culture advanced apace. He travelled extensively in the home countries of Europe and at an early date became familiar with many notabilities in France and Germany. He spent a day with Liebig as he had spent one with Wordsworth. In Berlin in 1841 he enjoyed the conversation of Ludwig Tieck and his brother the sculptor, of Rauch the sculptor, Waagen the art curator, and so forth. At Dresden he visited Retsch, the illustrator of "Faust," and at Munich discussed philosophy with the great Schelling. He expresses his pleasure at having seen and heard Felix Mendelssohn in London. He paid no visit anywhere, in fact, without gaining an insight into all that was best in the artistic and literary life of the place visited. Yet he never forgot his own proper business of science, for at an early age he made the acquaintance in his travels of Vrolik, Schröder von der Kolk, Flourens, Tiedemann, and Henle, and continued throughout life this custom of adding to his circle of friends all that was most eminent in the surgical and medical science of Europe and America.

We must not forget to mention two studies which, if pursued, might have led astray from science one whose leanings were essentially literary. When Simon was giving anatomical demonstrations in the then very insanitary dissecting rooms of King's College, London, he would turn during moments of leisure to the study of Oriental languages, particularly of Persian. In the "forties" the belief began strongly to prevail that German literature contained founts of esoteric wisdom. Simon with medical friends and others formed themselves into a society for the study of German metaphysics. What he drew thence it is hard to imagine—certainly not the pellucid literary style in which his famous "Reports," his treatises, his polemical letters to the *Times*, and his numerous articles are so happily couched. He aimed, as we know from himself, at clearness, at perfect lucidity, the perfect expression of the thought in his mind; for beauties of style as such he cared naught. Yet Simon's balanced old-world style is beautiful and remains a monument of English at its best. The style was, indeed, the man and it is scarcely paradoxical to say that without it Simon would not have been the great hygienic and social reformer that he was. With it, incidentally, he made sanitary reform a branch of English literature. There are certain passages in Simon's "Sanitary Institutions," a book that deserves to be read side by side with his friend Buckle's "History of Civilisation," on which any student of English might love to dwell. Chief among these is the whole grand passage dealing with St. Francis of Assisi and the Franciscan Order, which begins on page 49 of the "Introduction."

I am, Sirs, yours faithfully,

VICTOR G. PLARR,
Librarian of the Royal College of Surgeons of England.

August 2nd, 1904.

THE USE OF PHENYLHYDRAZIN IN THE CLINICAL EXAMINATION OF URINE.

To the Editors of THE LANCET.

SIRS,—It is with much interest and not a little regret that I have read in THE LANCET of July 23rd, p. 211, Dr. W. H. Willcox's article on the above subject. My object in replying is simply to uphold the delicacy and accuracy of the test in question, for this is my sincere conviction—a conclusion arrived at after nearly seven years of patient labour. It would, indeed, be deplorable if some of your readers, influenced by Dr. Willcox's article, should be induced to abandon what has been proved one of the most reliable tests that we possess. No doubt some experience is necessary not only in the mode of its application but also in interpreting the results.

I will briefly endeavour to show that the attack on the merits of this method of identification of glucose in the urine has been made upon an erroneous basis—to wit: 1. The test as applied to the urine was originally proposed by Professor von Jaksch and was never intended to be used subsequent to hydrolysis of the urine by hydrochloric acid. 2. Dr. Willcox shows by his own experiments that normal urine when treated by the test in question does not yield characteristic crystals. 3. It is quite possible crystals were obtained from urine after hydrolysis with hydrochloric acid similar to those obtained from diabetic urine; but this is altering the condition of things. A test is only of value when applied under certain conditions. 4. Supposing the crystals obtained after hydrolysing the urine are similar in appearance to those obtained from diabetic urine, the melting point will not be the same unless the hydrolysis produces glucose from some as yet unknown substance or substances.

It follows, therefore, that the mere production of apparently identical, or even identical, crystals obtained under altered conditions does not in any way detract from the merits of the test. The experiments of Dr. Willcox are of much interest inasmuch as they show the possible existence of other substances in the urine not yet recognised.

I am, Sirs, yours faithfully,

A. F. BILDERBECK GOMESS.

Drayton-gardens, S.W., July 31st, 1904.

THE PLAGUE IMMUNITY OF THE CITY OF MADRAS.

To the Editors of THE LANCET.

SIRS,—In your leading article in the issue of June 18th, on the subject of "Immunity from Plague enjoyed by Shanghai," you remark that a similar immunity of Madras "is not understood." As this is not the first time that this subject has been referred to by professional papers it may be of interest to some of your readers to know what at least are certain of the factors concerned in bringing this protection about. I quite agree with you in thinking that there is nothing inherent in Madras to protect against this disease. Sanitary conditions and the death-rate which results therefrom are phenomenal. Before, however, I proceed to state why I consider the disease has been kept at bay I should like it to be understood that I am perfectly aware that, in dealing with a free population, no method of prevention is infallible. And even when recognising the merits of any special method it is necessary also to remember that in respect of plague as of any other infectious disease, it does not follow that, because one or more cases are introduced in a population, an epidemic *must* ensue. The conditions under which the

morbific agent may be required to exhibit spread or duration of vitality may not be favourable, a small fact well worth remembering in fighting plague. The sanitarian may, with confidence, apply the principle that every chance of success is of solid advantage to him, and may remember that favouring accidents or chances affecting the disposal of infectious matter need not always be with the enemy.

When plague made itself felt in Hong-Kong in 1894 I issued a circular to port medical officers warning them of its possible entrance to this presidency. The moment it was ascertained that plague had entered Bombay, instead of adopting a system of quarantine and observation in camps I at once advised local bodies to employ passport surveillance of the type contemplated by the Local Government Board in England with reference to cholera. This was subsequently legalised by the Madras Government using the Epidemic Diseases Act; so that, by taking advantage of the revenue system of village organisation, every village and town in the area of 141,726 square miles of this presidency became a centre of sanitary action and surveillance. All persons proceeding from towns or villages "notified" as infected are required to take passports binding them to undergo surveillance during ten days in whatever localities they halt at. The first actual advent of plague in the city of Madras was in October, 1897, and although, as a matter of fact, in this first experience there was neglect of one day in surveillance which nearly led to a disaster, the tracing of cases was due to the existence of the passport system in its yet incomplete and non-legalised form. Since then, in the city of Madras 67 cases of imported plague have occurred, of which 59 have been directly, and the rest indirectly, detected under this system. Last year 79,488 passports were registered and only 2 per cent. of the holders were not traced. The trouble involved up to date to the municipal staff must have been great, but so far as one could perceive the result has been of enormous benefit to the 500,000 inhabitants of the city of Madras. Necessarily, the system is far from infallible. Irrespective of the possible arrival of infected material there must at times be evasions in the case of persons from infected areas who may or may not be incubating plague, the chances always, however, being heavily in favour of their not being infected, as shown by the large average number of cases that pass through the period of surveillance before a single case of plague is detected[1]—namely, 5000. Indeed, that the passport system has materially diminished without removing absolutely the chances of infection of the city is shown by the fact that in April this year Madras went through a small outbreak of indigenous plague, in all probability as a result of an evasion of the passport rules. The actual origin of infection was never ascertained, although the most reasonable hypothesis was the native rumour that the first death was in the case of a person who had been in the infected area of Bangalore and had evaded the passport rules on arrival. The suspicious death was fortunately reported by an anonymous petition to the medical officer of health who was able to warn in time the district medical officer in charge of a suburb beyond municipal limits to which certain of the contacts adjourned. The result was that the contacts were traced and on all the usual measures being applied to the infected localities the disease was stamped out, but not until 11 cases had occurred in the suburbs and five in the city of Madras. Luckily rats did not get infected. Not one of the cases was of the bubonic variety; they were toxic, pneumonic, and intestinal—showing, I think, that the Madras environment is capable of nurturing a very virulent strain of plague. The diagnosis of the last pneumonic case—a contact of a previous pneumonic case—was bacteriologically confirmed by Lieutenant-Colonel Bannerman, I.M.S., the then superintendent of the King Institute, Madras. As, then, you have remarked, there is nothing in the sanitary condition of Madras *per se* that has hitherto effected its protection. The chief factor in bringing about that result has been the activity of the municipal staff in keeping persons from infected areas under surveillance, aided by the passport system.

As a result of this method of fighting plague *from the commencement* of danger of importation numerous imported cases in hitherto uninfected areas have been detected in all parts of the presidency. Following prompt action by local officers in these cases no spread has taken place. Errors of judgment or breakdown of methods have led to indigenous plague in certain districts. But it has spread very slowly, and instead of there being widely scattered areas infected throughout the presidency ultimately fated to coalesce consequent upon the yielding of the intermediate areas, the curious result has been seen of plague being confined to the districts bordering upon the great centre—namely, the Mysore Territory, whence the infection is constantly imported and where the repetition of chances is consequently greatest. Year after year a gradual addition to the numbers of these districts has occurred and an advance towards the central and southern districts is at the present time threatened. It can scarcely be hoped that Madras city will escape being indigenously infected, but in the meantime the struggle by Government and local authorities in this presidency has been well sustained and the result has been, I think, to earn a grade of protection of life and trade that would not have been feasible had plague been "let rip."

I am, Sirs, yours faithfully,

W. G. KING.

Madras, July 13th, 1904. Lieutenant-Colonel I.M.S.

[1] In an indigenously infected district the examination of each 1000 passport holders arriving in uninfected areas secured one case of plague.—W. G. K.

LAYMEN AND ELECTRICAL TREATMENT.

To the Editors of THE LANCET.

SIRS,—In answer to Dr. E. Stanley Smith's letter in THE LANCET of August 6th, p. 423, I should like to bring before him the following considerations. First, the expense. I am sure that any medical man working at electro-therapeutics would willingly treat cases at whatever fee their medical adviser thought or knew they could afford. In suitable cases properly vouched for by their practitioner no fee for treatment in private would, I am sure, be charged. From what I know of the charges of my registered *confrères* I am of opinion that they would agree with me that, as a rule, skiagrams from £3 to £10 are the peculiar perquisite of the unregistered quack. I shall be pleased to send to any registered medical practitioner the list of the British Electro-Therapeutic Society, upwards of 200 medical men in London and the provinces, who would I am certain charge the fee that the medical attendant thought proper. Regarding the "absurdity of contending that there can be anything harmful to a patient in getting a layman to take a skiagraph," I would contend, Sirs, that it most assuredly depends on what the medical man wants. Does he want a picture? or Does he want to have skilled medical advice on the *interpretation of the skiagraph*?—things which, as you are well aware, are totally different in nature.

Again, we should be pleased to hear of the "layman," electro-therapeutic institute, &c., who, possessing a certain amount of elementary knowledge of anatomy, is still capable of knowing when to stop in treating any case with x rays, high-frequency, or any other form of electrical treatment. If this does not require a full medical training how is it that our hospital statistics are better than those of laymen or lay institutes? Why is it that the history of our hospital and, alas, often our private patients is very generally that they have tried this or that quack or quack institute and paid good fees before they come to us or our out-patient department for cure? This can be easily proved by a visit to any hospital with the requisite electrical department.

Secondly, regarding Dr. Smith's statement that "medical men shrink from sending their patients to another medical man owing to their diagnosis and treatment being overhauled by another," I would only ask the following question: Will the diagnosis and past treatment, good or bad, be upheld by a quack or quack institute rather than by one's own registered colleague?

Mr. H. Valentine Knaggs's letter in the same issue contains a somewhat alluring but dangerous suggestion. It is that medical practitioners who practise electro-therapeutics should *advertise* to obtain the support of some medical men and also to act as a foil to the numerous electrical quacks. This would entail de-registration. Does Mr. Knaggs seriously consider what this means to a duly registered medical practitioner? Would he give the same advice to the dermatologist, surgeon aurist, surgeon oculist, and laryngologist, or any other of our special practitioners? I venture to think, Sirs, that should we attempt to follow Mr. Knaggs's advice he would probably be the first to cast at us a stone.

Electro-therapeutics is recognised as a special branch of our art at all our large hospitals and most of the smaller ones and to all those who have carefully watched its development it comes somewhat as a surprise that any well-informed medical practitioner should for one moment be-little the assistance and help to medicine and surgery which the intelligent medical study of electro-therapeutics has already conferred.

I am, Sirs, yours faithfully,

Bedford-square, W.C., August 8th, 1904. CHISHOLM WILLIAMS.

To the Editors of THE LANCET.

SIRS,—It is indeed sad to see how some members of the profession who love to pose as veritable models of light and leading in ethical matters, disregarding the General Medical Council's notice *re* "covering," still persist in countenancing unqualified practice by sending their patients to laymen for electrical treatment. The reasons suggested by Dr. E. Stanley Smith in THE LANCET of August 6th, p. 423, are at the best but poor and specious excuses for such irregularities. They are: expense, squeamishness about having their diagnosis and ideas of treatment overhauled, and lastly, the elementary knowledge of anatomy required for the actual application of electricity.

A medical man who would rashly venture, on the score of expense, to send his patient to a "*skilled*" bone-setter, "*who has an elementary knowledge of anatomy*," would, I fear, have a hard time of it in struggling to convince operative surgeons of his singular regard for altruistic principles. So likewise do ophthalmic surgeons consider as something other than "*absurd to contend that there can be anything harmful to a patient in getting a skilled layman to*" examine "*him*" for diagnostic purposes." A correct diagnosis is the only sure basis of rational treatment. A patient who can afford to pay a fee of 30 to 100 guineas for a single operation can well spare an additional two or three guineas for an expert's opinion that will clinch the diagnosis in a doubtful case. Again, a skiagram is no more a measure of the exact value of a medical radiographer's services than a bottle of physic is of that of the general practitioner who dispenses. It is true that a certain section of the public are imbued with this idea but, *Heu pietas!* similar views are not held in professional circles. By those best fitted to express an opinion radioscopy rather than radiography is regarded as the surest guide to a correct diagnosis, although the latter has its uses for purposes of localisation and as confirmatory evidence in a court of law. It may easily be inferred from what has been already said that a skiagram is only a record of one phase of an examination with the Roentgen rays. It requires a vast amount of training to correctly interpret skiagraphic records in a search for calculi, effusions, tumour formations, &c.; even more experience is needed to tell which surface of the body or part was in immediate relation with the plate. This being the case, surely a labourer is worthy of his hire.

A great and wise physician has said, "We can learn a lot by our very mistakes, and none but a conceited ass would allow vanity to stand in the way of knowledge." Thank goodness, the profession at large are not to any extent afflicted with this troublous complaint, which spells death to consultations between medical men, whether specialists or general practitioners. How much reliance can be placed on "*the 'skilled' layman who has an elementary knowledge of anatomy*"? Is he likely to prove the superior of the average medical student in this respect? It cannot be too strongly emphasised that something more than a thorough acquaintance with the working of electrical apparatus and an elementary knowledge of anatomy is essential to success in electrotherapy. Experience that combines medical knowledge with that of the physiological and pathological effects of treatment and mastery of electrical instrumentation alone can guide us in making a judicious selection of cases and in planning out the exact combination that will prove most efficacious. The ordinary knowledge of disease of the practitioner who sends his cases to the skilled layman, who has a sound knowledge only of the workings of his apparatus, cannot supply this deficiency. Experience, which is a staff to the hand of the wise, is a rod for the back of fools. Unfortunately, in this case the punishment is too often administered by proxy, as it is the patient who suffers both in health and pocket for the selfish considerations which prompt his medical attendant to suggest this unethical course.

I am, Sirs, yours faithfully,

Leytonstone, Aug. 9th, 1904. CLARENCE A. WRIGHT

FREE OPERATIONS.

To the Editors of THE LANCET.

SIRS,—Your excellent special article on "Medicine and the Law" in THE LANCET of August 6th, p. 419, reminds us that in the case in question Miss Thorne operated without fee or reward, and has now been recompensed by the anxiety of a trial and the unpleasantness of a verdict against her. Was this patient really a case deserving of free operation? Would she not have been able to pay a moderate fee either to a London operator or to one of the excellent surgeons in the town from which she came? I am sure most provincial surgeons could give instances of well-to-do patients who have got operations done free in metropolitan hospitals or nursing homes and whose object in leaving their own localities was to escape the payment of surgical fees. Can any argument be advanced to justify this state of things? Probably it is due to the overcrowded state of the special departments of the profession in metropolitan cities and the desire of junior practitioners to gain experience, but that does not make it right. In some cases it is an abuse of hospital funds subscribed to benefit the deserving poor. In all cases it is an abuse of the charity of the medical profession and an injustice to provincial surgeons. Surely every possible care should be taken to separate the undeserving and often ungrateful from the really poor.

I am, Sirs, yours faithfully,

Belfast, August 8th, 1904. JOHN CAMPBELL.

THE INSURANCE OF MEDICAL MEN AGAINST THE DANGERS OF THEIR PROFESSION.

To the Editors of THE LANCET.

SIRS,—The first part of the letter which appeared in THE LANCET of July 30th, p. 327, signed by Mr. John MacGregor contains a mis-statement of fact that calls for immediate contradiction. The subject of misrepresentation when raised by my counsel was at once objected to by the counsel representing the Scottish Accident Company and the objection was upheld by the arbitrator who said that it was not material to the matter under arbitation, which he further explained was limited to the terms of the policy which constituted the contract between the parties to the suit. I was therefore precluded from calling evidence on this point, although the agent, Mr. Croucher, was present in court. The bias underlying the entire letter is so self-evident as to relieve me of the necessity of dealing with any other of the points raised.

I am, Sirs, yours faithfully,

Guy's Hospital, S.E., August 5th, 1904. JNO. EYRE.

THE REPUTATION OF SIR EVERARD HOME.

To the Editors of THE LANCET.

SIRS,—The reputation of Sir Everard Home is severely dealt with in an annotation in THE LANCET of July 23rd, p. 234. Everyone must admit that he put himself hopelessly in the wrong by burning the bulk of the MSS. of John Hunter 30 years after the latter's death. The circumstance that he did this just after publishing a large work of his own and after his co-executor, Dr. Matthew Baillie, had left London gives to the act a worse complexion. But strict justice must be claimed for every offender, and I ask, Is it fair to write, *apropos* of John Hunter's MSS., that "the windbag Home owed all his knowledge and reputation to them and became F.R.S. and Hunterian lecturer on the strength of them"? Home was Hunter's brother-in-law, his pupil from 1772, his senior executor, and he wrote an excellent and appreciative life of Hunter the year after his death in 1793. The best account of Home that I know is that given by Sir Benjamin Brodie in his autobiography, a little work which is a pattern of candour and right feeling. Brodie was a pupil of Home (1803) and later his assistant, continuing for a number of years to work with him in dissections, in comparative anatomy, &c. He therefore knew him intimately, and yet being himself connected with Matthew Baillie through the Denmans, and constantly working with Clift, Brodie was also in touch with other custodians of John Hunter's fame. The dispassionate

account which Brodie gives of Everard Home presents the picture of a man of high abilities and unwearied industry, "a great practical surgeon" who "never shrank from difficulties," and who pursued, even during his years of full surgical practice, laborious researches in comparative anatomy. "His early papers on Anatomy, published in the 'Philosophical Transactions,' are of great and acknowledged value"; they earned him the F.R.S. in 1785 at the age of 29 years. The extract which you give from his first Hunterian lecture at the Royal College of Surgeons in 1813 hardly looks like the utterance of a plagiarist: "I shall lay before you the results of Mr. Hunter's labours and sometimes of my own." It was later in his life, when his powers were declining under the influence of gout and age (he had become one of the Prince Regent's associates), that an overweening desire for fame led him to send inferior papers to the Royal Society and to publish some of Hunter's notes and drawings as the result of his own observation. Brodie emphatically condemns him for his destruction in 1823, nine years before his death, of the Hunter MSS., though he states from his own knowledge that these consisted of rough notes, of value to the cataloguer of the museum but of little use to another person. It was, as Brodie writes, an unjustifiable act and also a foolish one. It was foolish because it "led to the notion that he had made use of John Hunter's observations for his own purposes much more than was really the case," whilst the very act left him no means of justification against such a charge. His desire for fame singularly overreached itself. The deed created a feeling against him which makes it hard even at this distance of time to obtain common justice for his memory. Mr. G. T. Bettany's article upon him in the "Dictionary of National Biography," if compared with Brodie's carefully measured statements and facts, will be found to exaggerate the case against Home. But the sober verdict of history will take account not merely of the folly of his old age but of the strenuous and successful labours of his prime and will adjudge him no unworthy place after Abernethy, and Cline, and Astley Cooper, and Physick, and Carlisle, and Blizard in the long roll of the Hunterian pupils.

I am, Sirs, yours faithfully,

Weymouth-street, W., July 27th, 1904. R. HINGSTON FOX.

"EUGENICS."

To the Editors of THE LANCET.

SIRS,—Most of your readers will agree with Dr. Archdall Reid that "it would be impossible to imagine a subject of greater importance to the community than the one Mr. Galton has brought forward," and will doubtlessly be interested to see that the main aspects of this question are to be further considered. They will have remarked that Dr. Max Nordau is to take part in the discussion on Degeneracy and Professor Karl Pearson in that on Heredity in its Biological Aspect. These names are a guarantee that in addition to its general consideration the more special views of the question which obtain in German and Austrian universities on the one hand and those prevailing in English centres of thought on the other will be ably and adequately represented.

It is to be regretted then, many will here think, that an exponent of French opinion on the subject should not be participating in the debate. France was the only country where, thanks to the clear and logical character of its intellect and the comprehensive nature of its mental culture, Weismannism or neo-Darwinism never made any considerable impression. The result is seen, so far as our own profession is concerned, in the fact that France is also the only country, with the exception of that small section of America which follows Cope and the neo-Lamarckians or Eimer in his theory of orthogenesis, where the old conceptions of diathesis have firmly held their ground. Professor Bouchard who is prominent among the distinguished men contemplating, we are all happy to learn, an early visit to England, would have proved a brilliant and eloquent authority on these views which he is known to have established on a modern and partly experimental basis. Professor Bouchard could provide us with a definition of degeneracy, not an easy task even for so able a writer as the chief contributor to the classical treatise on "General Pathology" which bears his name. He could also describe the work done by those who share his views on heredity, such as that developed by Costantin in "L'Hérédité Acquise," by Le Dantec in "La Sexualité" and "L'Évolution Individuelle et Hérédité," and could mention more especially the brilliant researches conducted by his former pupil, Professor Charrin.

Professor Bord's remarkable book, again, on "Cellular Specificity" ("La Spécificité Cellulaire") is too little known in England or America, and insufficiently known, it should be added, even in France. It shows in convincing terms that the germ plasm is as much of somatic origin as any other highly differentiated tissue, such, for example, as the nerve cell, and that the influence of somatic modifications on heredity, a fact at one time denied or regarded as inconceivable by Weismann and his school, is a necessary consequence of what Bord has called vital induction and of that determinism which is the universal law of life.

Professor Pearson has shown by his studies of parthenogenesis that "whatever be the function of sex in evolution it is not the production of greater variability,"[1] and hence contributed to demonstrate the exaggerated character of the universal and really supernatural powers often claimed for natural selection. May he not then find it wise on this occasion, in view of the fact that Eugenics is in danger of being claimed as an exclusive attribute of natural selection, to make the new science a subsidiary, although important, branch of hygiene?

I am, Sirs, yours faithfully,

Nice, July 29th, 1904. A. W. GILCHRIST, M.D. Paris.

HUMAN AND BOVINE TUBERCULOSIS.

To the Editors of THE LANCET.

SIRS,—I venture to hope that you will give a place in your columns to the following extract from a letter which I lately received from Professor Robert Koch. I have asked and obtained Professor Koch's permission to send to you for publication this authorised translation of a part of the letter.

TRANSLATION.

..... It will interest you to hear that the experiments which were made at my suggestion in the Imperial Institute of Public Health concerning human and bovine tuberculosis are practically complete and quite bear out my views. These experiments were carried out on such a number of animals and with so much care that they are, I firmly believe, incontrovertible. Besides this, these experiments were made during my absence (in Africa) and, therefore, were not influenced by me. They prove that bovine and human tuberculosis are different from one another. Cattle cannot be infected with human tuberculosis. In very rare instances can man be infected with bovine tuberculosis. This work will be published in detail in a few months.

The Congress on Tuberculosis held in London in 1901 is now chiefly remembered by the statements Professor Koch then made to the effect that human and bovine tuberculosis were different diseases. This statement was made by him because he believed its truth and because it was proved by numerous experiments he had then recently completed and by certain facts he had observed. Before his statement was made about them in London these experiments had, at Professor Koch's request, been submitted for examination and report to a committee of experts whose fitness authoritatively to speak about them no one will call in question. The late Professor Virchow was one of the members of that committee and he published his opinion that Professor Koch proved his statement by his experiments. This was the opinion at which that committee arrived with Professor Koch's work before them.

(I write this letter in the country without having access to references, but there was published in the *Times* a week or two after the close of the 1901 congress a letter from me in which note was made of Professor Virchow's statement and reference given as to where it was published.)

In their *interim* report, lately published in your columns, the commissioners appointed by our Government to inquire into this question relating to human and bovine tuberculosis stated their dissent from Professor Koch's conclusions. The evidence got by experiment on which our commissioners based their opinion has not yet been published, nor, so far as the public know, has it yet been referred for examination to any committee of experts. Those able to estimate the worth of evidence got by experiment can form no opinion as to the value of the experiments on which our commissioners have founded their views of this important question until the detailed report of those experiments is published or has been reported on by a committee of experts. It is probable we shall, when that time arrives, have additional important

[1] Vernon: Variation in Plants and Animals, p. 181.

evidence for our guidance in coming to a definite conclusion in the full report of those experiments corroborative of his own work to which Professor Koch refers in the above translation.

I am, Sirs, yours faithfully,

August 10th, 1904. G. A. HERON.

AN EXPERIMENT WITH THE VERMIFORM APPENDIX.

To the Editors of THE LANCET.

SIRS,—I procured the cæcum and ileo-cæcal valve with the vermiform appendix from the body of a five months old child. I tied the ileum at the valve and drew the cut end of the cæcum over a tube. The appendix was one and a half inches long and had the kink or bend about three lines from its tip. I blew very gently into the cæcum. At once the appendix began wriggling and twisting freely and rapidly like a lively worm, its tip reaching hither and thither eccentrically over a considerable area as if seeking for a point of attachment. If the dead appendix can do that mechanically I can understand the living appendix, when threatened in the same way, searching about, digging into neighbouring organs, and attaching itself, as it so frequently does, to the rectum, sigmoid flexure, colon, cæcum,[1] bladder, broad ligament, or mesentery, and even to an abscess cavity. I make the observation that all these organs into which the appendix may dig lead away from the peritoneal cavity and open chiefly into the external world.

I next blew into the cæcum a little more vigorously. The whole appendix became rigid and still, standing straight out in the axis of the cæcum like the stem of a clay pipe; its walls dilated to nearly double its former diameter. Lastly, I put a few drops of water into the appendix and cæcum, blew again, and the water escaped from a pin-hole perforation at its tip.

I am, Sirs, yours faithfully,

ALEXANDER FORSYTH, M.D. Glasg.

Barclay-road, Leytonstone, Essex, July 24th, 1904.

THE NEW SYDENHAM SOCIETY'S CLINICAL ATLAS.

To the Editors of THE LANCET.

SIRS,—If any of your readers chance to possess drawings or photographs illustrating varicella, more especially any which bear upon its diagnosis from variola, I shall be greatly obliged if they will allow me to inspect them. The committee in charge of our Clinical Atlas is at present engaged in preparing a fasciculus dealing with these exanthems.

I am, Sirs, yours faithfully,

JONATHAN HUTCHINSON,
Honorary Secretary of the New Sydenham Society.

15, Cavendish-square, W., August 10th, 1904.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

The Annual Subsidence of the Plague Epidemic.—The Model Dwellings for the Poor in Bombay.—Oiling the Roads of Indian Cities.

THE returns of the plague mortality throughout India are now comparatively insignificant. The latest figures for the week ending July 9th give a total of 1910 deaths as compared with 2688 for the previous seven days. The Punjab reports 681 deaths; the Bombay Presidency, 549; the Mysore State, 296; the Madras Presidency, 197; and other places less than 200. The decline in Bombay city has been this year very marked, the minimum being almost a record one. It is possible that the demolition of numerous rookeries as in Calcutta has produced some effect, although in some of the new model dwellings in Bombay plague has broken out somewhat severely. These model dwellings are being extensively constructed by private enterprise but they have to conform to the designs and conditions of the Improvement Trust. The latest built are sanitarily constructed and adapted to the customs of the people. It is hoped that the difficulty of housing the poor in Bombay is settled and it now only requires time to carry out the reconstruction of the native city in its entirety. The scheme for Calcutta is not yet announced and as the conditions of life of the great mass of the people are different the problem of housing, at any rate on a commercial basis, may have to be worked out afresh. The Bombay model dwellings consist of blocks of two or three storeys. There is a central passage open freely at each end on to which the rooms or tenements open, the other sides of each room being open to the exterior verandah. The rooms are about 12 feet square and have cemented floors. The bathing places are at the end of each block but on each little verandah a small bathing place is also provided. The latrines are detached from the main building and are generally placed at one end. They are composed of suitably constructed water-closets capable of being periodically and automatically flushed. The main building is thus protected from sewage contamination. A free supply of good drinking water is also conveniently installed for each block. Ventilation for each room is provided for by louvred openings near the ceiling. Inspection of the interior is easy, cleaning can be carried out expeditiously, and there is very little opportunity for collections of filth. The disadvantages are that each room has its own cooking stove and that there is practically no limit to the number of the occupants. The upper storeys fetch higher rents than the lower and there are variations in detail for some of the blocks adapting them for the different castes and according to the capacity of the tenants to pay. Those who know Bombay will appreciate the vast improvement of these model dwellings over the crowded and insanitary chawls for which the city has such an evil reputation. It is important to note, however, that it is only the compulsory powers of the Improvement Trust which have brought about the reconstruction, and it is equally important, and a very hopeful sign, that speculative landlords are forthcoming willing to construct these dwellings as investments for their money.

The practice of oiling the roads is largely concerned with the public health as the alleviation of the dust nuisance is a very important problem for a large Indian city. The trial in Bombay has been very successful and is to be repeated on a larger scale. The surface of the road is also said to stand better the disintegrating influence of the sun and wind. The essential point seems to be that the oil should be allowed to soak in slowly and it is then found that no obnoxious mud is produced. The operation must of course be carried out during the dry season. The laying of the dust is worth the expense which, after all, seems to be moderate, and the improvement of the surface of the road is another advantage. For the long seasons of dry weather prevalent in India this process promises great benefits. Municipal authorities are generally slow to adopt new things and oiling of the roads has not yet, I believe, been practised in any other Indian city.

July 16th.

THE CONGRESS OF THE ROYAL INSTITUTE OF PUBLIC HEALTH.

(FROM SPECIAL CORRESPONDENTS.)

(Concluded from p. 517.)

THE meetings of the sections were continued on Monday and Tuesday, July 25th and 26th. On Monday a joint meeting of sections was held to hear an address by Professor HUEPPE (Prague) on

Tuberculosis.

Speaking in English he said that while phthisis was less frequent in England than in Germany, taking all the forms of tuberculosis, there was not much difference between the two countries. Phthisis was generally more widespread in the towns than in the country, and in industrial centres than in agricultural districts. At the same time, both in England and in Germany there were agricultural districts showing more deaths from tuberculosis than industrial ones. Favourable conditions diminished the incidence of tuberculosis but in certain country districts the conditions were bad, hence the greater prevalence of tubercle. In Eastern Europe especially uncleanliness in the houses neutralised the good derived from pure fresh air. Very few had a natural resistance against tuberculosis, hence unhealthy conditions of traffic and of industry tended to increase the disease. If, therefore, tuberculosis

[1] THE LANCET, July 9th, 1904, p. 62: Mr. A. A. Bowlby's dissection into ileo-colic abscess.

in different places showed a different incidence under the same conditions, this was due partly to the presence of different quantities of tubercle bacilli but also to differences in predisposition of the population. From the year 1890 they began in Prussia really to fight against tuberculosis by making laws, by-laws of the sanitary police, and orders and instructions, especially for working men. Conradi and Koch believed that the decrease of tuberculosis in Prussia was caused by these measures, especially from the compulsory use of spittoons in public places, workshops, industrial establishments, and so on, but the sanitary officers and industrial inspectors reported that the working men did not pay enough attention to the orders; they did not make use of the spittoons and so prevented the destruction of the excreta. The decrease of tuberculosis really began in Prussia in 1880—i.e., ten years before the beginning of the anti-tuberculosis crusade (1890), and in Bavaria about 20 years before that, in 1870, so that the new orders and instructions could not be the chief reason of this decrease, and the decrease was the same in agricultural districts where no special by-laws were made. In Germany in 1883 the great social laws were introduced for working men and the whole social condition was improved. By these laws pecuniary means were provided to fight against illnesses. The improvement of the social condition of all classes in the whole of Germany progressed with these new laws. Tuberculosis was chiefly an illness of the poorer people and attacked from four to six times more poor men than well-situated people. A great deal depended on predisposition and pre-existing disease weakened the resistance to tubercle. The fight against tuberculosis must be against infection, the disease, and predisposition. Infection was derived not only from man but also from warm-blooded animals. The infection of children from infected milk had been under-estimated by Koch, whereas Behring considered it of the greatest importance.

SECTION OF PREVENTIVE MEDICINE.

Physical Deterioration.

On this subject Lieutenant-Colonel O. T. DUKE, R.A.M.C., read a valuable paper, referring most of the instances of national deterioration to the faulty precautions taken by mothers with regard to their own health and to the vicious methods of up-bringing to which the infants were often subjected.

Mr. H. BEALE COLLINS (Kingston-on-Thames) read a paper entitled

Imperialism and the Doctor.

He said that a prominent politician had advised them all to think imperially. The health officer in his parochial work and the practitioner curing or alleviating disease were "doctors" who had acted imperially, whatever their thinking might have been, for however insignificant the parochial part might be it was one of the parts that went to make up the imperial whole. He alluded to the imperial importance of the decreasing birth-rate, not only in this country, but in some of the colonies, and pleaded for greater care to be taken of the nursing mother.

Dr. F. G. BUSHNELL (Brighton) advocated the constitution of a Ministry of Public Health; and Dr. F. J. H. COUTTS (Blackpool) read a paper on the Administrative Control of Whooping-cough, Measles, &c., which was briefly discussed by Dr. J. W. MASON (Hull).

SECTION OF CHILD STUDY AND SCHOOL HYGIENE.

Alcohol and Children.

Dr. G. CARPENTER (London) discussed the effect of Alcohol on Children. He said there was a popular idea that alcohol was not only not injurious but was beneficial to children in health as well as in disease but this was open to grave doubt. Alcoholism was not rare among children and played a far greater part in the production of disease than had been recognised. Alcohol expended its main effects in children on the nervous system.

Importance of Normal Respiration in Childhood.

This was the subject of a paper by Dr. P. WATSON WILLIAMS (Bristol) who said that the assimilation of oxygen and the elimination of carbonic acid were essential for the continued activity of the muscles and of the tissues generally. The causes of defective respiration were both extrinsic and intrinsic; the results and the means to be adopted for their correction were both physical and biological.

The Vision of School Children.

Dr. J. P. WILLIAMS-FREEMAN (Andover) had investigated the eyesight of 1442 school children in West Hants. The statistics showed that 64 per cent. had normal vision as against 39 per cent. in London, according to Mr. Brudenell Carter.

Dr. J. A. MENZIES (Dover) discussed the

Influence of Certain Forms of Defective Sight on Education and vice versâ.

He said there was evidence to show that myopia was probably never congenital, whereas hypermetropia and astigmatism were. Education was a direct exciting cause of myopia. He advocated medical supervision of schools and education of teachers to take an intelligent interest in the sight of the children.

Mr. JOHN JACKSON (London) read a paper on

Ambidexterity

He emphasised the importance of manual training for developing the special senses and the mind and went so far as to say that one-handed culture neglected one brain lobe which thus became more or less atrophied and positive mental depreciation consequently ensued.

Dr. F. J. POYNTON (London) discussed the

Influence of School Life on Rheumatic Children.

Children who were of rheumatic stock or who had suffered from an attack of rheumatic fever at some previous date were very frequently highly emotional and nervous. Such children were liable to get quite out of hand at home and for them the discipline of a well-conducted school was often most beneficial and brought about a distinct improvement in their general health. Where, however, active rheumatism developed school life was injurious to them. At first sight it might seem very unlikely that a child suffering from rheumatic fever could attend school, yet so insidious was the disease that among poor children this occurred repeatedly. One manifestation—viz., chorea—was nearly always rheumatic, but its importance, especially among the public, was not recognised as it should be. In three and a half years while attending the hospital twice a week he had taken notes of 225 cases of rheumatic fever in children under 12 years of age, 126 of whom had suffered from chorea. School work of all kind was injurious to the condition of chorea in the active phases.

Mr. J. WARRINGTON HAWARD (London) described in a sympathetic paper

The Aims and Method of the Invalid Children's Aid Association.

Many cases of disease could be treated perfectly well at home if only they could obtain a small amount of nursing help. In diseases of a chronic character the amount of medical supervision required was often small; a visit to the medical man once in two or three months would in many instances suffice if the medical instructions were properly carried out in the intervals and it was for these cases that the association was so valuable. The method of the association was described.

Dr. LEONARD G. GUTHRIE (London) read a paper on Mental Overstrain in Childhood and Dr. FLETCHER BEACH (London) discussed the Diagnosis and Treatment of Feeble-minded Children.

LADIES' SECTION.

The State Registration of Nurses

was discussed in three papers.

Mrs. BEDFORD FENWICK (London) gave details of what had been done in other countries in this direction and suggested the formation by Act of Parliament of a General Nursing Council and the institution of measures providing for the efficient education of nurses and granting them the legal status which was their due.

Miss PLUM (matron, Victoria Hospital, Folkestone) gave as her opinion that the registration of nurses by Act of Parliament was the only means by which a general standard of education and a definite system of professional control could be obtained; the standard should be a high one in all hospitals. By giving a recognised status to competent nurses a good stamp of women would be attracted to the nursing ranks.

Miss ALICE BARLING (Borough Sanatorium, Folkestone) discussed State registration as it affected the private and the public nurse. She described instances of how at present anyone with the smallest knowledge might style herself a

nurse and considered that State registration would be of immense advantage both to the public and to the medical practitioner.

Dr. R. S. MARSDEN (Birkenhead) said they must all agree that the case for the registration of nurses had been made out but they could not stop anybody from calling herself a nurse any more than they could stop any man calling himself a doctor. The untrained nurses would still continue to earn their living in the same way. It was not physiology that the nurse wanted: it was common sense.

Mrs. SCHARLIEB, M.D. (London), read an instructive paper on

Laws of Health for Girls during the years of Adolescence, at Home and at School.

She discussed her theme under the headings of (*a*) pure air; (*b*) adequate warmth; (*c*) suitable food; (*d*) duly regulated exercise and rest; (*e*) personal care and cleanliness; and (*f*) environment.

SECTION OF BACTERIOLOGY.

Milk-supply.

The papers which came under discussion at the meeting of this section were the Collection and Transit of Milk from the Bacteriological Point of View—(*a*) the Methods Adopted by Railway Companies, by Dr. T. D. LISTER (London); (*b*) Bacterial Contents of Milk at the Points of Origin and Distribution, by Dr. J. W. H. EYRE (London), showing the great increase in bacterial contamination when milk reached the consumer; (*c*) Bacteriological Technique, by Mr. G. L. EASTES (London), dealing with the methods of examining milk; and (*d*) Veterinary Control of Dairy Herds, by Mr. S. VILLAR, F.R.C.V.S. (Harrow), who pointed out that the necessity for veterinary supervision of dairy herds was not sufficiently recognised. The most important point in securing the purity and good quality of milk was that it should be produced by healthy and clean cows which were kept in healthy and clean surroundings. It was a common thing for milking cows to be kept in a filthy condition in most insanitary surroundings. To the veterinary surgeon should fall the duty of insuring that the cows were properly and sufficiently fed, that their water-supply was pure, their sheds kept clean, and many other details.

At the conclusion of the morning sitting the following motion was adopted:—

That this section hereby forwards to the council of the Institute the following resolution—viz.: "That this section being of opinion that urgent steps are necessary, in the public interest, for the purposes of securing a clean milk-supply for the consumer, hereby requests the council of the Royal Institute of Public Health to consider the whole question with a view to giving effect to this decision."

Mr. W. HUNTING, F.R.C.V.S. (London), read a paper on

The State Control of Measures for Stamping Out Glanders,

in which he advocated the compulsory notification of all cases, compulsory slaughter of diseased animals, use of mallein to detect latent disease, and cleaning and disinfection of stables; and Mr. MCPHAIL, M.R.C.V.S. (Edinburgh), urged the necessity for municipal veterinary inspection.

SECTION OF ENGINEERING AND BUILDING CONSTRUCTION.

Mr. FRANCIS GOODRICH (London) discussed the

Disposal of the Waste of Public Institutions and Works,

in which he described various forms of destructors, and the same subject was also dealt with by Mr. F. L. WATSON, A.M.I.C.E. (Leeds).

Mr. WILLIAM MAXWELL, A.M.I.C.E. (Tunbridge Wells), read a paper on

The Conservation of Subterranean Water-supplies.

He concluded that having regard to the large and increasing population in this country entirely dependent upon subterranean water-supplies, the question of conserving and augmenting this source of supply was one of growing importance and was destined to play an important part in the sanitary and water engineering works of the future.

SUB-SECTION OF PHYSICAL TRAINING OF THE FORCES.

Surgeon-General G. J. H. EVATT, C.B., read a paper entitled "Suggestions for the Improved Organisation of the Medical Services of the Volunteer Forces," and Brigade-Surgeon-Lieutenant-Colonel J. L. TURTON, A.M.R., dealt with a similar topic as affecting the Army Medical Reserve, while Brigade-Surgeon-Lieutenant-Colonel W. HILL CLIMO discussed Military Service and National Health.

ANNUAL GENERAL MEETING.

The annual general meeting was held on July 26th, when votes of thanks were passed to the President, the Earl of Radnor, to the Mayor of Folkestone and the local committee, to the Dean of Canterbury and other ministers, and to the presidents, vice-presidents, and secretaries of sections.

Dr. W. R. SMITH was re-elected President of the Institute and the nomination of officers and council was accepted.

THE OPENING OF THE "POLICLINICO" AT ROME.

(FROM OUR ROME CORRESPONDENT.)

ABOUT 30 years ago, when the proposal was made by Guido Baccelli that the various clinics of Rome should be united under one roof, these institutions were scattered over the city at points so distant from one another that little or no coöperation was possible between them and a vast deal of expense was incurred in the maintenance of a number of separate and independent establishments which could ill be spared from the scanty funds available. Not only so, but the buildings, mostly old monasteries and churches, in which they were housed were out of repair and totally unfitted from their construction and surroundings to the purposes of a hospital. They were overcrowded and ill-ventilated, and on account of want of space and suitable premises it was impossible to organise their service in an efficient and satisfactory manner. Whilst this condition of things was detrimental to the interests of patients to a degree which cannot be estimated, but was certainly deplorable, the interests of the medical profession suffered to a corresponding degree. Much time was necessarily wasted by students in passing from one section of their clinical studies to another and much valuable material for study was lost owing to the impossibility of making use of it. For the surgeons and physicians who had to do their work under such conditions the difficulties were enormous and, for the former especially, well-nigh insurmountable. It is true that the results of operative work by such men as Durante, Postemski, Mazzoni, and Bastianelli in the Roman wards will compare favourably with that accomplished elsewhere under all the advantages which modern science supplies. But these results have been secured in the face of difficulties which would make most surgeons despair and the removal of these difficulties will undoubtedly give a great impetus to Roman surgery.

The idea put forward by Baccelli and elaborated by Durante was caught up with enthusiasm by the nation and in 1880, when the sum of 50,000,000 lire (£2,000,000) was granted by the Government to the municipality of Rome for improving the city, part of the amount was provided for the express purpose of carrying out this scheme. In 1881 the principal clinicians of Italy met in Rome to place the project on a scientific basis and architects were invited to compete for the construction of the new hospital. The successful competitor was Podesti, and after many delays, due chiefly to the difficulty of choosing a suitable site, the work was at length begun in 1888. For a time the buildings were pushed on with alacrity and already in 1894, when the great International Congress of Medicine, which was attended by 9000 medical men, met in Rome all the members were impressed by the vastness of the structure. The work continued to progress, though more slowly, until in 1900 it was practically complete. Unfortunately, as pointed out by Professor Bossi a few weeks ago in the Chamber of Deputies, the handing over of the management of the Policlinico in that year to the Board of Administration of the Roman Hospitals led to much delay and to some mistakes. One serious error committed under its direction was to place 100 beds in each pavilion in two wards, one over the other, and communicating in such a way that the vitiated air from the lower ward flowed into that above. An attempt was also made to omit the arrangements for central heating on the plea that in Rome these were unnecessary and that heating the wards by simple braziers would be sufficient. Such changes and disputes, together with want of the funds necessary to prosecute with dispatch the completion of the corridors

connecting the pavilions and of the internal fittings and furnishings, led to delays that seemed interminable and to injuries to the building itself inevitable in an edifice kept closed and uninhabited. Large sums have been required to make good the damage so caused, adding considerably to the cost, already enormous, of the structure itself, a cost which has nearly approached a total of three-quarters of a million pounds sterling.

A few facts and figures cited by Professor Bossi in the speech already referred to serve to show the pressing need which existed for the speedy opening of the Policlinico. In the first place, it is impossible to complete the systematising of the Tiber until the part of the Hospital of Santo Spirito now occupied by Professor Baccelli's clinic has been pulled down and the way opened up for the building of the new bridge over the river, the Ponte Vittorio Emanuele, by which it is proposed to connect the "Città Leonina" with the "Città Urbana." Secondly, the present condition of the various clinics as regards space, buildings, and such-like requirements is quite inadequate to modern needs in respect of hygiene, scientific progress, and teaching facilities. For example, the surgical clinic has officially but 27 beds for 200 students and Professor Durante who directs it has been obliged to convert part of his wards into a *casa di salute* in order that, by taking paying patients, he might be able to increase the number of his beds from 27 to 60. The obstetric clinic with 200 students is limited to 20 beds for obstetric and ten beds for gynæcological cases. Again, as already indicated, the distance between some of these clinics is so great that it is not possible for the most zealous students to frequent them all. For example, the medical and pediatric clinics at Santo Spirito, the obstetric clinic at San Giovanni, the surgical clinic in the Via Garibaldi, and the dermosyphilitic clinic at San Gallicano are almost as widely separated as they could possibly be. Finally, in respect of sanitary conditions it need only be remembered that the hospital accommodation of Rome in 1870, when the population numbered 180,000 inhabitants, was the same as it was at the beginning of the present month with a population now numbering 500,000. The consequences may easily be imagined. The hospital wards contain twice or even thrice as many patients as they ought to accommodate. To cite only one or two instances, the ward of San Carlo at Santo Spirito, adapted for 100 beds, holds at times as many as 228, and that of Santa Maria at the same hospital contains 140 in place of the normal 85. At San Giovanni the ward Pucinotti contains about 100 instead of 50 and the ward Mazzoni 110 instead of 64. At San Giacomo, in the Corso, it was necessary to appropriate as wards the rooms occupied by the nurses and attendants who have been obliged to live outside, thus greatly weakening the service of the hospital. As a result of this overcrowding tuberculous patients are unavoidably placed side by side with those suffering from other diseases, and it is a fact that as many as ten of these cases may be found in each ward of Santo Spirito, constituting so many permanent foci of infection. The state of things in the maternity hospitals is more deplorable. In these and in San Giovanni there are altogether 75 beds available for the annual 7500 parturient poor of Rome. It frequently happens that one of these unfortunates, on the eve of being confined, has to go the round of all the institutions before finding a bed, and, still worse, on the third, fourth, or fifth day of the puerperium has to be sent out to make room for some other.

At least until a few days ago such has continued to be the condition of the Roman hospitals. But, happily, the long looked for opening of the Policlinico is at last an accomplished fact, for on August 2nd the arrangements for the reception of patients were complete and on the 5th there had been admitted over 500 patients, nearly all of whom were conveyed from San Spirito, San Giacomo, and San Giovanni. At present the patients are placed in the ten central pavilions and none of the surrounding clinics are occupied, but it is hoped that funds will still be found to equip the latter or at least the two general clinics of medicine and surgery. It will thus be seen that although now open, and although the pressure on the other three great hospitals is thereby relieved, yet the Policlinico still falls short of realising the original conception of Baccelli whose idea was to build a model hospital of at least 1200 beds surrounded by all the clinics. The sinews of war were lacking and the design of the architect as it stood in 1883 could not be executed in its entirety; indeed, it is said that at one period—in 1898—the financial outlook was so gloomy that it seemed as if the whole enterprise must collapse and there was even some talk of converting the buildings into military barracks. Happily it was possible to introduce modifications which curtailed the expense and so saved the institution from shipwreck, but these necessarily sacrificed a part of the original plans and so restricted the hospital to its present less ambitious proportions. Even in its actual state it covers 160,000 square metres and consists of 26 large buildings and many smaller ones. There are ten pavilions, each capable of receiving 84 patients, a special wing for infectious cases, and a great central building for administrative purposes; also buildings for clinics of medicine, surgery, obstetrics, gynæcology, dermo-syphilopathy, ophthalmology, pediatry, as well as of oto-rhino-laryngology, of special medical and surgical pathology, and of neuropathology. The following professors, each with two assistants, have been appointed "primarii" to the pavilions—viz., on the surgical side R. Bastianelli, T. Ferretti, and R. Alessandri to Nos. 1, 2, and 3 respectively; and on the medical side T. Ferruccio, A. Zeri, V. Ascoli, U. Archangeli, E. Rossoni, G. Bastianelli, V. Pensuti, and T. Gnaldi to the others respectively.

The opening of the Policlinico is regarded in Italy as of not merely local but of national importance, since its construction has been in great part a national undertaking and one in which the greatest pride is justly felt by all Italians who desire to see their country take its merited place in the foremost rank of science and civilisation. And it will be everywhere recognised that in carrying it through successfully Italy has done noble service to mankind in the face of the greatest difficulties and has erected a monument to her own honour which will bear lasting testimony to her charity and humanity.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

The Lord Chief Justice on "the Conscientious Objector."

IN the course of his remarks to the grand jury on July 28th at the Birmingham Assizes the Lord Chief Justice made some observations concerning the Vaccination Act with a view to obtaining uniformity of administration on the part of the magistrates. He wished, he said, to take the opportunity of saying a few words to them and through them to the general body of magistrates who had to discharge duties in regard to the working of this Act. He mentioned the matter on account of the very considerable number of representations which had been made to the Home Office as to the difference prevailing amongst magistrates in the administration of the Act of 1898. They were aware of the general provisions of the Act and the extremely salutary provision which had worked so well providing for vaccination at the houses of the children and thus avoiding the delay and difficulty which often arose from the parents having to take their children to be vaccinated. It certainly was a matter of great congratulation to those of them who had studied the question of the spread of the disease of small-pox to know of the improved supervision under which vaccination was now carried on, and that the salutary effects had been very marked since the Act was passed. They further knew that the legislature, in its wisdom, had thought fit to enact that there should be power to obtain, within a certain period, a certificate of exemption from vaccination on the ground that the applicant conscientiously believed that vaccination would be prejudicial to the health of his child. It was in regard to that provision that this difference of practice prevailed. Some magistrates appeared to think that they ought to be satisfied that vaccination would be harmful to the child, others seemed to think that they were entitled to have medical evidence before them that such vaccination would be prejudicial. He wished to point out that this was not the question which magistrates had to decide and it was from this point of view that he was desirous of assisting the authorities to secure uniform administration of the law. The section, as he read it, laid down two conditions, one that the person who applied "conscientiously believed," and the other that "he believed that vaccination would be prejudicial to the health of the child.' The only question the magistrates had to entertain was: Did the applicant conscientiously believe that vaccination would be prejudicial

to the health of the child? With regard to the conscientious belief, of course, there were many occasions upon which there could be no doubt about it, but it was not sufficient that a man believed generally that vaccination was an improper thing or that he had been led to form that belief without considering the particular case of the child in point. It must be an honest conscientious belief on the part of the applicant that vaccination would be prejudicial to the child in question. It was no good to have a sort of general idea that vaccination was not good. Applicants must not hold a general objection to it either on the ground of interference with the rights of the subject or on the point of parental control. It must be the conscientious belief that vaccination would be prejudicial to the health of the child. He trusted that by these remarks he might do something to secure a more uniform administration of the law upon the lines which he believed the statute indicated.

Notification of Consumption.

At the last meeting of the City Council Alderman Cook, chairman of the public health committee, brought up a recommendation from that committee that a system of voluntary notification of tuberculosis of the lung be approved and that the committee be authorised to take the necessary steps to put the same into effect. He said that many years ago the treatment of consumption was taken very little notice of. It was regarded as an incurable disease and he could remember the time when trade societies hesitated to admit men as members in whose family there was consumption. But during the last 50 years a great deal of attention had been given to the subject. By means of improved sanitation, better housing, better food, and better general regulations respecting health the ravages of consumption had been reduced by 50 per cent. But a great deal remained to be done. What the committee desired was to know where the cases were in order that means might be taken, if necessary, to secure the isolation of the sufferers and also to assist in preventing, as far as possible, the spreading of the disease. In Birmingham there was an average annual death-rate from tuberculosis of nearly 1100 and that showed the importance of the subject, because, after all, small-pox, scarlet fever, and the other infectious diseases did not cause anything like the number of deaths that consumption did. Last quarter, of all the deaths in Birmingham one in every 12 was due to phthisis. Therefore, if the committee could only do something to reduce the mortality they would accomplish a great work. The notification would be regarded as absolutely confidential and would not be allowed in any way to prejudice the patient. The committee would prefer compulsory notification but they thought the time had hardly arrived for that. The experience of other towns was that by voluntary notification about 50 per cent. of the whole of the cases were notified. The cost of voluntary notification would be about £300 per annum and he thought the money would be well spent. In the course of the discussion Councillor Middleton, as an official of a friendly society, testified to the growth of consumption and expressed the opinion that voluntary notification would do much to help the committee in putting down the disease. In his opinion there was no reason why the committee should not endeavour to stamp out the disease by the provision of sanatoriums without pauperising the patients, as might be the case if the work were undertaken by the board of guardians. It was quite as important that the disease should be stamped out as it was that they should get rid of scarlet fever and small-pox. In reply to various questions which had been raised in the course of the debate Alderman Cook stated that the first step would be to see how far they could induce people to isolate the patients. Although there was often a great deal of overcrowding in bedrooms it was a singular fact that the attic was often not used at all. The committee hoped to get people to carry out suggestions which in the ordinary way would not occur to them. They were proposing to circularise every medical man in the city that they would be paid the same rate for notification as in the case of other diseases—namely, 2*s.* 6*d.* per case. The committee expected to receive through medical men information of about 50 per cent. of the cases. He added that he thought the voluntary notification would in a reasonable time lead to compulsory notification. It was doubtful whether the climate of Birmingham was suitable for a sanatorium but something might be done in the way of making provision for the very poor. He thought they could accomplish more by preventing contact than by climatic improvement. They were completing the hospital in Yardley-road and he was hopeful that in due course the health committee would have some recommendation to make which would meet with the approval of the Council. The motion for voluntary notification was carried.

"Homes, Limited."

It will be remembered that, as detailed by me in a former letter, this company was started with the intention of providing cheap and sanitary homes for the poor in the centre of the city. The company chose a site in the very centre of the city, erected admirable buildings, and offered 60 dwellings at rents varying from 3*s.* to 4*s.* 3*d.* and 5*s.* per week. The remarkable fact that has appeared after the first year of this experiment has been that the company, instead of having been overwhelmed with applications, has actually found it difficult to secure tenants. This is a pungent criticism on the contentions of some that the city council was to blame for not launching out into a huge scheme for the erection of such dwellings.

August 10th.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

The Royal Infirmary Trustees.

A SPECIAL general meeting of the trustees of the Manchester Royal Infirmary was held on July 27th to consider, and if thought advisable to approve, the following motion:—

That the plans for the new infirmary on the Stanley-grove site, with the estimate of cost, being submitted to the trustees, the board of management be authorised to proceed with the building of the new infirmary at Stanley-grove.

The chairman, Mr. W. Cobbett, moved its adoption. He said that the building of the new infirmary would occupy three years. The plans and estimates were before the meeting. They had been approved by the board of management and the medical board and it was for the trustees to sanction them or otherwise. The estimate for providing accommodation for 589 beds was £322,193, with the addition of £16,109 for extras, making a total of £338,302. With architects' commission, payments to clerk of the works and others, the cost of furnishing, &c., the total estimate came to £430,475. He then touched on a question exciting much interest, that of a central receiving house. There does not seem any urgency as to this matter just now, but many are anxious to have the question settled. The board says it will consider it and when it is in a position to do so will recommend one thing or the other, but it must be decided ultimately by the trustees themselves. One of the matters to be considered is the provision of ambulances. A subcommittee of the board was appointed to meet the watch committee of the corporation which met the subcommittee sympathetically and said practically that if the board would provide buildings at the new infirmary it would make it one of its principal stations and "run the ambulance" at the expense of the corporation. There has not been time yet to complete the negotiations. An amendment to the motion was moved approving of the plans except for the out-patient department. Those for this department are to be held in abeyance till the question of an emergency hospital near Piccadilly be decided. In the event of such provision being made the out-patient department would not require to be as extensive as shown on the present plan. After a good deal of discussion the motion with the following addition was suggested by the chairman:—

This resolution is without prejudice to the question of the provision of a central receiving house and out-patients' department, which the board undertake to consider and make a recommendation upon to the trustees at the earliest possible moment.

Many think that with the constantly increasing facilities for locomotion and the provision of a good ambulance service there is no longer any need for a central hospital, with its out-patient department and separate requirements as to administration. Others think it would be a "terrible mistake" not to have a central receiving hospital. No doubt the *pros* and *cons* of the question will be well threshed out. One of the trustees urged careful consideration of the great cost to which they were committing themselves. As he said, the estimated cost is between £700 and £800 per bed and the cost of maintenance would be on a higher scale than at the present infirmary. The cost per

bed does seem very high but this gentleman did not propose any plan for its reduction.

Hospital Amalgamation.

Negotiations have been proceeding for some time between the boards of management of the St. Mary's and the Southern Hospital and the authorities of the Victoria University that have resulted in an arrangement for the amalgamation of the two hospitals. This is subject to the approval of the subscribers, which, however, will probably be obtained. The new hospital in Gloucester-street will be devoted to maternity cases and will provide about 100 beds and a training institution in midwifery for students and nurses. An out-patients' department for women and children will also be retained there. The Southern Hospital will be built on a site facing Oxford-road, opposite Whitworth Park, and will be used for the treatment of the diseases of women and children. When the scheme is completed there will be 225 beds devoted to midwifery and the diseases of women and children. "There will also be a school for the education of medical students, midwives, and midwifery nurses," an arrangement which reads curiously to those whose ideas have not progressed with sufficient rapidity. The danger of overlapping will certainly be removed. The title is to be "The St. Mary's Hospitals," but probably the old names will continue to be used for the sake of distinction.

Reservoirs at Audenshaw.

At the meeting of the Manchester city council on August 3rd Alderman Sir John Harwood made a somewhat disquieting statement as to the Audenshaw reservoirs and works. They are near Manchester and serve as the distributing centre for the water supplied by the Woodhead chain of reservoirs. He said that the waterworks committee had been anxious about them for a considerable time and had been watching them closely both day and night for more than two years. There are coal-mine workings in the neighbourhood which have caused sinking of the ground and "have made it necessary to reduce the holding capacity of the reservoirs in that township below top-water level to an extent equal to the loss of 330,000,000 of gallons." The whole district—houses and a chapel—has been damaged and sunk between two and three feet and the movement is steadily going on. When the corporation bought the land it was not aware that it was intended to get coal under it "and to buy out the coal would be a very expensive matter indeed." Sir John Harwood says that the corporation is not in any way to blame, but it is, at any rate, unfortunate that its advisers did not make such inquiries as would have enabled the corporation to protect itself against such a contingency as that now threatening. Sir John Harwood says, moreover, that in law they are entitled to support for their lands, but it would seem a difficult task to prop up a reservoir. Whether the subsidence will go much further depends, of course, on the character and extent of the working of the coal mine, as to which no information was given.

Death from Anthrax.

An inquest was held at Altrincham on August 6th concerning the death of a hawker. On August 2nd he took a load of bones to Manchester and afterwards complained of pain in his arm. He was taken to the Altrincham Hospital where he died. The medical evidence attributed the death to anthrax, "which might have been contracted on the Tuesday or have been in the man's system a fortnight." No details of the case are reported. Outbreaks of anthrax have occurred so frequently of late in Cheshire as to cause much anxiety. One of the districts recently visited is Malpas, where 15 pigs were affected, most of which died and were cremated.

August 9th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Payment of Poor-law Medical Substitutes.

AT a meeting of the Mountmellick guardians held on August 6th the application for leave of absence from Mr. E. F. Hogan was considered. Mr. D. Edgar Flinn, medical inspector of the Local Government Board, attended, and at his request a letter dated July 12th was read from the Local Government Board suggesting that the guardians should grant not only the full four weeks' leave of absence to their medical officer but should also pay his substitute for the entire period. Mr. Flinn mentioned that a special Act of Parliament had been passed securing recoupment to boards of guardians of the fees of medical officers' substitutes. The Chief Secretary had stated that if any cases of hardship were brought to his notice he would make the leave compulsory. Now it is years since a former Chief Secretary promised that a month's leave would soon be rendered legally compulsory in all cases. Observe the result in this particular case: Mr. Hogan was granted two weeks' leave, his substitute to be paid at the rate of three guineas a week only.

The late Dr. W. A. McKeown.

At a meeting of the friends of the late Dr. McKeown held in Belfast on August 2nd it was unanimously decided that "a suitable memorial should be raised to perpetuate his memory." A committee was appointed to further the object. The form which the memorial is to take has not yet been decided upon.

The Proposed Sanatorium for Consumptive Patients.

At a meeting of the Belfast corporation held on August 2nd it was decided to erect a municipal sanatorium for consumptives through which annually 300 to 400 patients might go. It is proposed to take early cases from the guardians, who will pay half the maintenance, and paying patients will also be received. It is said that 1100 people die from pulmonary tuberculosis each year in Belfast, and in the past four weeks 79 have succumbed to it, so an institution for this preventable disease is much needed in the city.

Rainfall in July in Ulster.

Rain fell in Ulster to the extent of 3·75 inches (which is rather under the average—3·92) on 24 days in July. The total rainfall this year is now 20·78 inches, which is slightly under the average and distinctly less than in 1903. The old tradition in regard to July 15th has not held true, as St. Swithin's day was an extremely wet one.

Royal Victoria Hospital, Belfast.

Mrs. Pirrie has just presented 17 beautiful iron enamelled medicine cabinets to the hospital for each of the wards, which makes the furnishing very complete, and indicates the continued interest taken in this institution by one who has been such a generous benefactor.

Ulster Eye, Ear, and Throat Hospital.

Dr. W. M. Killen, who for the past 14 years has been assistant surgeon, has been promoted to fill the post of surgeon in place of the late Dr. McKeown. Dr. R. Allen has been selected as assistant surgeon.

Outbreak of Small-pox in Armagh.

A patient from near Middletown, county Armagh, who was admitted to the union hospital in the city of Armagh with small-pox died there on August 3rd, and five new cases have since been admitted and nine "contacts" have been isolated. A very large number of people are being vaccinated, although it would appear that the Local Government Board has not been able to supply an adequate amount of calf lymph, owing to which considerable disappointment prevailed among those who wished to be revaccinated. A case of small-pox has occurred in the person of a police-constable in the barracks, Barleek, in the Newry union. This case is believed to have been imported from the town of Armagh. The disease has made its appearance also in Dublin.

The Belfast Ambulance System.

The work in connexion with the ambulance branch of the Belfast fire brigade has been very arduous during the year ended June 30th last, 2393 calls having been received, occupying 1343 hours 41 minutes, and showing an average of 33⅗ minutes per journey from the receipt of the call until the carriage returned to its station. The distance traversed was 8249½ miles, or an average of three and a half miles per single journey.

August 9th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Action of Sulphurous Waters upon a Mercurial Course.

IT has been demonstrated in varying circumstances that the administration of sulphurous waters to patients undergoing a mercurial course of treatment will prevent the

phenomena of mercurialism. At the meeting of the Medico-Chirurgical Society, which was held on July 11th, M. Desmoulière cited two interesting observations which go to support the above statement. From his researches he had ascertained that in addition to the known effect of sulphurous waters upon the excretions, both cutaneous and urinary, it was necessary, in order to explain their effect upon a course of mercurial treatment, to take into consideration the following facts. The absorption of mercurial salts by the organism is under certain conditions very slow, as, for instance, when they are given by the mouth in the form of the bichloride or the proto-iodide, or when they are given by injections, especially when insoluble salts are used. These mercurial salts form albuminates which remain unabsorbed and cannot act until they are rendered soluble. Sulphurous waters, however, contain compounds which are capable of dissolving these albuminates with much greater facility than chloride of sodium which is the chief means by which the organism is capable of taking up mercury. It follows, therefore, that the administration of sulphurous waters during a mercurial course allows the organism to take up the mercury as it is administered and so prevents accumulation.

The Effect of Diuresis on Albuminuria.

At the meeting of the Society of Biology which was held on July 16th M. Javal stated that he had observed that in the case of nephritic patients, the hydration of whose tissues varied very little, the ingestion of an excess of water simply diluted the albumin. Therefore if the amount of albumin was estimated as so much per litre of urine passed it appeared less than before, but in reality the total amount remained the same. In cases of polyuria, if the increase in the volume of urine passed was due to dehydration of the organism, the effect on the albuminuria was by no means the same as when the polyuria was due to the ingestion of a large quantity of water. Therefore, in studying the amount of albumin passed by a patient suffering from nephritis it was important to take into account the variations in the total quantity of urine passed and the causes of these variations, for it will easily be seen that the total amount of albumin passed during 24 hours gives figures much more trustworthy than a mere estimation expressed in terms of so much per litre of urine passed.

The Treatment of Varices and of Phlebitis by Movement.

At the meeting of the Academy of Medicine which was held on July 26th M. Lucas-Championnière read a paper upon some researches of M. Marchais concerning the Treatment of Varices by Exercise. This treatment is a natural corollary to the bold surgical treatment of the veins which followed upon the introduction of the antiseptic system. Veins can now be tied, cut, excised, or treated just in the same way as any other tissue provided that sepsis is avoided. Recently even inflamed veins have been removed. Phlebitis and embolism are not necessary consequences of traumatism or movement and since 1878 M. Marchais has given up keeping his female patients who were suffering from phlebitis at rest. As for embolism, those cases which occur very uncommonly and have been observed in patients suffering from fracture have had nothing to do with movement, for those which M. Marchais has been able to collect, whether in his own practice or in that of other surgeons, have occurred when the fracture had been immobilised and kept absolutely at rest. He therefore considers that the complications of phlebitis are rather the consequence of treatment by rest than of the phlebitis itself. In cases of varix M. Marchais forbids his patients to stand still but treats them by gentle massage and walking. Elastic stockings are banned and as a preliminary to the walking he uses massage for from 15 to 20 days previously. Then he makes his patients walk quickly—i.e., at least 100 steps per minute. Only a short distance is walked at the beginning, but eventually the patient walks for an hour or even two hours. Swedish exercises are also useful as well as the use of the tricycle or bicycle.

Experimental Reproduction of the "Mal de Bassine."

"Mal de bassine" is a trade dermatosis which under certain conditions attacks the hands of silk-winders who are employed upon cocoons reputed to be "sick." M. Heim and M. Pautrier have made a special study of this disease and communicated a paper thereon to the Society of Biology at the meeting held on July 23rd. Some observers have attributed the disease to the product of putrefaction from the chrysalis as it macerates in the warm water of the "bassine," others to some vesicating product of the silkworm which is taken up by the silk. M. Heim and M. Pautrier took cocoons from lots which had apparently given rise to this dermatosis and rubbed the chrysalides up with an oily substance so as to form an ointment. This ointment applied to the skin gave rise to a dermatosis closely resembling other artificial dermatites. The skin became red, œdematous, and sometimes small vesicles appeared. It is evident, then, that the chrysalis of the mulberry silkworm contains a vesicating principle which with the aid of the macerated condition brought about by the warm water will reproduce when applied to the skin a dermatosis exactly like that called "mal de bassine."

The Action of Radium upon some Nervous Maladies.

M. Raymond and M. Zimmer communicated to the Academy of Medicine on July 26th the results of the application of a tube of radium containing five cubic centimetres to various patients suffering from nervous affections. The tube was kindly lent by M. Curie. In hysterical cases the results were *nil* and the same was the case in musculo-spiral paralysis and acute facial neuralgia. Very remarkable results, however, were obtained as regards the painful phenomena of tabes. Peripheral pains were rapidly and completely relieved and in several grave instances of gastric crisis great relief was obtained. These results induced the observers to try the effects of x rays and they consider that they met with great encouragement. They intend to communicate these results at some future meeting of the Academy.

August 9th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

The Study of Medicine in Germany.

THE central committee of the German Practitioners' Association has just issued a warning to those who may be thinking of entering the medical profession. The committee states that so long ago as 1887 it had addressed school authorities and the daily press to the same effect and that at the time the condition of the medical profession was described as "difficult, perhaps unfavourable," and its prospects as sad. This prediction, now says the committee, has proved true, the standard of life of the profession being considerably lower at present than at any previous time. Three causes are alleged for this condition—overcrowding of the profession, the abolition of the anti-quackery laws, and the legislation on the workmen's insurance. The number of medical men has doubled since 1876 and they reside in any place where there is a chance for them to gain a modest livelihood even under the greatest difficulties. The abolition of the anti-quackery laws has had the effect of increasing the number of unqualified people practising medicine. Disreputable persons, sometimes former criminals, get an extensive *clientèle* by unscrupulous advertisements and arrange public meetings at which qualified medical men are attacked and insulted. It is remarkable that even cultivated laymen are inclined to prefer the advice of unqualified persons, so that in some places in Germany their number exceeds that of the qualified practitioners. Concerning the influence of the workmen's insurance laws the committee alludes to the insufficient fees paid by the clubs, to the dependent position of the club medical officers, and to the necessity of canvassing for employment at clubs. Since nine millions of people—i.e., more than one-sixth of the population—belong to sick clubs, their influence is very great. The competition for club appointments has indeed been very prejudicial to professional etiquette and has led to disagreeable controversies between medical men, especially in the smaller towns. Although the opinion of the committee is well founded and clearly expressed it is very unlikely that it will have any influence on the forthcoming candidates for the medical career.

Medical Degrees.

During the winter semester 611 medical men took the degree of M.D. at the German universities. Of these 101 graduated at Leipsic and 26 only at Berlin, though the latter university has the greatest number of medical students. The cause is that the degree is little more than a formality,

especially now when it is granted to Germans only when they have previously passed the State examination; therefore the majority of students take the degree where the fees are cheap and the regulations simple. This is the case at Leipsic, whilst at Berlin the fees are high and many old formalities must be observed which take up a good deal of time. Munich has conferred 88 degrees; Kiel, 50; Greifswald, 37; Bonn, 36; Strasburg and Würzburg, 30; Berlin, 26; Rostock, 25; Breslau, 24; Göttingen, Halle, and Marburg, 19; Jena, 17; Erlangen and Königsberg, 16; Tübingen, 12; and Giessen and Heidelberg, 10. It is worthy of remark that no Americans have taken the degree at the University of Berlin, where at one time they formed nearly a majority of the candidates. The reason is that Americans whose general education is not of a high standard having been found to practise medicine in their country under the Berlin M.D., the Berlin medical faculty has now issued regulations to prohibit foreigners with unsatisfactory general knowledge from studying medicine. In foreign countries it is alleged no difference is made between the German State examination and the title of M.D., so that by the action of the above persons the foreign opinion on the value of German diplomas is liable to become unfavourable. Nine medical women took the degree, of whom eight were German and one Russian.

August 9th.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Examination for the Army Medical Service.

AN important change has been made in the examination of applicants for admission to the Army Medical Corps. Formerly immediate appointment to the staff, after a physical and medical examination which answered the requirements, was the rule. The result was that there was no opportunity to test the appointee as to his real fitness for the position on the staff. On July 1st it was determined to change this method of appointment and hereafter applicants will be subjected to a preliminary examination and a final or qualifying examination, with a course of instruction at the Army Medical School at Washington intervening. The preliminary examination will consist of a careful inquiry into the physical qualifications of applicants and written examinations in mathematics, geography, the English and Latin languages, anatomy, physiology, chemistry, therapeutics, and normal histology. This preliminary examination will be conducted by army medical officers in different parts of the United States and the questions submitted will be identical in order to insure a competitive feature. All papers will be submitted to a board at Washington for criticism and grading. Applicants who attain a general average of 80 per cent. and upward in this examination will be employed as contract surgeons and ordered to the Army Medical School for instruction as candidates for admission to the Medical Corps of the Army. The instruction in the Army Medical School is to be of a practical character, embracing those subjects which immediately pertain to the duties of the medical officer in the service. The final examination is to be held at the close of the school term and will comprise the subjects taught together with the following subjects not included in the first examination: surgery, practice of medicine, diseases of women and children, obstetrics, hygiene, and bacteriology and pathology; general aptitude will be marked from observations during the term. A general average of 80 per cent. in this examination will be accepted as qualifying for appointment and candidates attaining the highest percentages will be selected for commission to the extent of the existing vacancies in the Medical Department. Candidates who attain the requisite general average but who fail to receive commissions will be given certificates of graduation at the school and will be preferred for appointment as medical officers of volunteers; they will also be given opportunity to take the qualifying examination with the next succeeding class.

The Medical Library Movement.

The movement to create medical libraries marks a change in the educational tendencies of the profession of this country of no small import. Until within a very recent period no attention was given to the collection and preservation of medical literature. A few physicians in the larger cities had small collections of old editions of text-books and two or three sets of defunct medical journals, but there was no thought given to the preservation of relics of the past except as curiosities of literature. The general practitioner subscribed to a single medical journal and rarely bought a new book. With the inauguration of the Surgeon-General's Library at Washington the attention of the profession has been called to the value of large collections of medical literature to those who are disposed to prepare papers on medical subjects. The want of such libraries was most felt in cities where medical colleges are located, as students are in need of books of reference. It appears from an article in the *Medical Library and Historical Journal* that there are now 215 large medical libraries in the United States with a total number of 1,023,295 volumes.

World's Fair Medical Congress.

One of the novelties of the great St. Louis Exposition will be the session of the Medical Department of the Congress of Arts and Sciences, which will be opened on Sept. 20th. It is not to be an assemblage of physicians merely but a congress of medical scholars. The department is to be divided into 12 sections. The president of the department will be Professor Osler of Johns Hopkins University. Among the speakers at the meetings of the sections are the names of many of the prominent writers and teachers of this country and Europe. Professor Sedgwick, of the Massachusetts Institute of Technology, will addresss the section on Public Health: Professor Jacobi of New York and Professor Escherich of Vienna will address the section on Pediatrics; Professor Ronald Ross of Liverpool and Professor Celli of Rome will discuss subjects at the meeting of the section on Preventive Medicine; Dana of New York and Ziehen of Berlin will appear as contributors to the section on Psychiatry; Dr. Cohen of Philadelphia and Sir Felix Semon of London are to address the section on Laryngology and Otology; Putman of Boston and Kitasato of Tokio are to be before the section on Neurology; and Sir Lauder Brunton of London and Professor Matthias E. O. Liebreich, of the University of Berlin, are scheduled for the section on Therapeutics and Pharmacology. Many other men of distinction are on the list of persons who will attend and take part in this Congress.

Death of the Founder of the American Medical Association.

In the death of Dr. Nathan Smith Davis on July 16th there passed away one of the most familiar figures at the annual meetings of the American Medical Association at the advanced age of 87 years. Dr. Davis was in every respect a self-made man. His opportunities for education were extremely limited and with the most meagre preparation he entered upon the study of medicine in the office of a country practioner at the age of 17 years. At the age of 20 years he graduated at a medical college located in a country town and commenced practice in a small hamlet. He was a great worker and ambitious of success and soon removed to a large town in Southern New York. Here he began to develop his peculiar genius for organising the profession by creating a county medical society. His efforts were directed at first to the elevation of the standard of medical education, and it was as chairman of such a committee that he brought before the New York State Medical Society motions which led to the organisation of the American Medical Association. The motions provided for the calling of a national convention of delegates from medical societies and colleges to be held at New York on the first Tuesday in May, 1846, for the purpose of adopting some concerted action relative to the elevation of the standard of medical education. The motion was adopted, the convention called, and the result was the creation of the great National Association which for over half a century has gained in power and influence over the profession until it is now supreme. Dr. Davis removed to Chicago soon after and has filled important positions in the medical schools in that city. He was a voluminous writer on many subjects and the author of a text-book on the practice of medicine.

The Operations of the United States Public Health and Marine Hospital Service.

Surgeon-General Wyman has furnished a very interesting statement of the operations of the United States Public Health and Marine Hospital Service. According to this statement its 300 or more medical officers may be found in every prominent seaport on the coast from Maine to Alaska and on the great lakes and rivers; on the Isthmus of Panama,

in Porto Rico, Hawaii, and the Philippines; in Canada, British Columbia, Japan, China, India, and Europe. In the United States they are administering 22 Government hospitals and 125 other relief stations, extending surgical and medical relief annually to 58,000 seamen of the merchant marine; administering 37 quarantine stations, inspecting and disinfecting ships and isolating contagion approaching from foreign shores. They make visual examinations of all pilots and reject 4 per cent. annually of all who apply for colour blindness; they examine the crews of all life-saving stations for physical defects unfitting them for its service; they are located at every port where emigrants arrive and on the Canadian and Mexican borders; and they personally examine everyone for the purpose of rejecting those afflicted with some form of contagious disease or whose physical condition makes them liable to become a public charge. At the present time they are at certain portions of the country threatened with an invasion of yellow fever waging a prophylactic campaign by the systematic destruction of the breeding places of mosquitoes which convey the germs of this pestilence and organising in cities and villages local working parties to continue this work. At Washington a large number are engaged in laboratory work determining the quality of the antitoxic serums of the country, settling doubtful questions as to the existence or non-existence of bubonic plague, yellow fever, small-pox, and kindred diseases. As Surgeon-General Wyman remarks, "It is a world service."

Hospital or Ambulance Cars.

Hospital or ambulance cars were devised by Dr. Elsha Harris, of the United States Sanitary Commission, during the "Civil War." It now appears that one of our great railroads, "The Erie," is about to establish a medical service throughout its entire line. Hospital cars are being built, each 50 feet long, divided into two parts, one a ward containing eight beds, two of which will be suspended in such a way as to avoid jars. The smaller will be fitted up as an operating room. The plan is that they will be stationed at accessible points along the entire route so that they may be quickly sent to the scene of any accident; an attendant will always be on board the car and on the way the company surgeons and nurses, previously notified by telegram, will be taken aboard.

July 20th.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

Bubonic Plague.

AFTER three weeks' immunity from plague one fresh case has been reported in Sydney. The patient, a girl, lived close to one of the wharves from which plague-infected rats had recently been taken. At Maryborough, Queensland, a Chinese, who recently arrived from Bundaberg, died from a suspicious illness, and a post-mortem bacteriological examination proved that he had plague. A case has been reported from West Australia.

Epidemic Cerbero-spinal Meningitis.

The outbreak of what has been called in the press "spotted fever," but which is evidently cerebro-spinal meningitis, continues at Corowa, Gundagai, and Albury. Various theories have been suggested to account for the outbreak, assuming that the disease is not cerebro-spinal meningitis. One of the most far-fetched is that the cases are due to phosphorus poisoning, from phosphorus placed in rabbit burrows to poison rabbits and washed out into local water-supplies by the recent heavy rains after the prolonged drought.

Treatment of Tuberculosis.

Dr. W. Camac Wilkinson recently gave a lecture to the Sydney Ladies' Sanitary Association on the Rôle of City Dispensaries in the Prevention of Consumption. He maintained that tuberculosis being essentially a city disease it was one of the primary duties of a city council to lead a crusade against the scourge. He advocated the establishment by the city council of city dispensaries for consumptives. Technical legal objections had prevented the council from trying the scheme, but he hoped that a new municipal act would be passed giving the council the necessary powers. In his opinion, in the cause of public health the hospital for advanced consumption was of far greater public utility than the sanatorium. As an economic measure the sanatorium must be reserved for cases of tuberculosis in the early stage. Notification was a primary condition of success in any scheme for the prevention of consumption. In the present state of public opinion it was idle to propose compulsory notification. This might come in time, but not until public opinion had been educated to understand the meaning of, and necessity for, notification.

Insanitary Sydney Suburbs.

The plague outbreak and a reformed city council caused a great and much-needed cleansing of the city of Sydney, but the crowded suburbs, especially Balmain, Newtown, Camperdown, and Erskineville, remain in a disgracefully insanitary condition. The matter was discussed at a recent meeting of the Balmain council in connexion with a particularly flagrant instance brought under its notice by one of the aldermen. It was pointed out that a great deal of the trouble was due to structural defects in the buildings, overcrowding, causing absence of sunlight, and deficient drainage. What was required was a Suburban Building Act. What is also urgently required, as pointed out by Dr. W. G. Armstrong in his last report as medical officer of the combined metropolitan districts, is a larger staff of sanitary inspectors and more efficient inspection. Balmain has a population of 30,000 and covers 888 acres. Its sanitary "staff" consists of one inspector, who also helps in rate-collecting.

Milk Supervision Bill in Victoria.

A conference of delegates from interested municipalities was held recently in Melbourne to discuss the provisions of the Milk Supervision Bill. The clauses were considered *seriatim* and the majority were agreed to.

Sydney Dental Hospital.

A deputation from the Sydney Dental Hospital has waited on the Premier to ask for financial assistance. It was pointed out that the institution was entirely supported by private subscription and the dentists who attended gave their services free. The Premier said he recognised the noble work the hospital was doing and he would place a sum of £300 on the next estimates as a special grant.

St. John Ambulance Association.

The council and executive committee of the St. John Ambulance Association and St. John Ambulance Brigade waited on the Governor-General of the Commonwealth and presented him with an address. Pleasure was expressed at the action of the King in conferring upon his Excellency the honour of Knight of Grace, and upon Lady Northcote the honour of Lady of Grace of the Order of St. John of Jerusalem. In the course of his reply Lord Northcote assured the deputation that he viewed the work of the ambulance department of the order with the utmost satisfaction, particularly as several members of the order had rendered such good work in the South African war. Major G. Lane Mullins, M.D., Major A. E. Perkins, M.B., D.S.O., and Dr. T. Storie Dixson received the decoration of "Hon. Serving Brother" of the order.

Care of Epileptics.

A deputation organised by the National Council of Women recently waited on the Minister of Lands, Victoria, to ask for a grant of a suitable piece of land for a colony for epileptics, which it was proposed to establish. It was pointed out that there must be from 1600 to 2000 afflicted persons in the community. Not more than one-fifth of the number was provided for in the existing institutions. Epileptic children were prevented from obtaining education in the ordinary way and the development of the disease was favoured by the want of proper mental training. There being no occupation available for them they were compelled to live practically in idleness and through physical and mental neglect became a heavier burden to their relatives and friends until eventually they found their way either into the lunatic or the benevolent asylums. With the exception of the period during which a fit lasted, an epileptic, as a rule, was capable of steady work and was able to take part in the social life around him. Epilepsy could co-exist with physical and mental endowments of a high quality. The Minister said he was in entire sympathy with the deputation but it was doubtful if a suitable block of land was available for a colony. He would see what could be done. The National Council for Women decided to establish the colony for epileptics last October and propose to conduct it, once the initial expenses

have been met, on self-supporting lines. It is hoped to raise £1000 by public subscription to enable a beginning to be made. Only women and girls will be taken at first. Patients are to be of three classes—(1) paying £2 or more a week; (2) paying £1 a week; and (3) paying 7s. 6d. a week.

Friendly Societies and Lodge Surgeons.

An action was recently tried in the county court, Melbourne, arising indirectly out of the establishment of a friendly societies' institute at Brunswick. When the various societies agreed on this undertaking they gave no proper notice to their respective lodge surgeons of the termination of their agreements but simply advertised for medical officers to the institute. In this action Dr. D. E. Stewart sought to recover from the trustees of the Shamrock Lodge of United Ancient Order of Druids, for medical attendance on members of the lodge for the quarter beginning February last and £5 for breach of contract to employ him as medical officer of the lodge; also damages for failure to pay the amount due for the previous quarter in time, and failure to furnish a list of members on whom he was to attend. The defendants paid £2 2s. into court in satisfaction of the first claim and 1s. for the third claim. The judge found for the plaintiff for the amount paid into court. On the issue as to breach of contract he found for the defendants.

Obituary.

Dr. Thomas Baynton, an old resident of Sydney, died at his residence, Ashfield, on June 6th. He arrived in Australia in 1840 and 30 years ago started practice in Sydney, having previously been engaged in pastoral pursuits. He leaves a widow who has been a frequent contributor to the Sydney press and has published a series of sketches in book form.

July 4th.

Medical News.

UNIVERSITY OF LIVERPOOL.—At examinations held in the Faculty of Medicine in July the following candidates were successful:—

SECOND M.B. AND CH.B. EXAMINATION.

Anatomy and Physiology.—J. W. Cropper and G. W. Williams.

Materia Medica and Pharmacy.—T. T. Apsimon, E. R. Armstrong, A. C. Edwards, S. J. C. Holden, A. Jones, T. Martlew, W. R. Pierce, J. H. Rawlinson, A. M. M. Roberts, R. S. Taylor, and S. V. Tinsley.

FINAL M.B. AND CH.B. EXAMINATION.

Part I.—J. F. Edmiston, B. T. J. Glover, T. E. Jones, J. F. McCann, J. McClellan, S. W. McLellan, R. H. Mole, L. D. Napier, T. W. Parry, C. H. Smith, F. H. Storey, C. Yorke, and W. Yorke.

Part II.—A. E. Grisewood,* W. L. Hawksley,* P. Hick, G. J. Keane,* W. A. Kidd,* G. C. Scott,* and T. E. Walker.

* With second-class honours.

The Diploma in Public Health has been awarded to—

D. T. Parry, M.D., B.C.I.

The Diploma in Tropical Medicine has been awarded to the following:—

M. Clayton, M.B., B.S. Durh.; Saiduzzafor Khan, M.B. Edin.; P. Hebir, Major I.M.S., M.D. Brux., F.R.C.S. Eng.; A. R. Madurkin, M.B., Ch.B. Glasg.; J. E. Nicholson, Lieutenant-Colonel R.A.M.C., M.R.C.S. Eng., L.R.C.P. Lond.; and N. Phillipson, L.R.C.P. & S. Edin.

The Diploma in Veterinary Hygiene has been awarded to—

E. E. Martin, Captain A.V.D., M.R.C.V.S.

FOREIGN UNIVERSITY INTELLIGENCE.—*Berlin.*—Dr. Anton v. Eiselsberg, now of Vienna, has been offered the chair of Surgery in the Charité, which is being vacated by the retirement of Professor Franz König.—*Bologna:* Dr. J. C. Ferrari of Modena has been recognised as *privat-docent* of Psychiatry and Dr. Ivo Bandi as *privat-docent* of Hygiene.—*Bonn:* Dr. Binswanger having declined the chair of Mental Diseases, Dr. A. Westphal of Greifswald, a son of the late well-known Berlin professor, has been appointed. Dr. W. Reis has been recognised as *privat-docent* of Ophthalmology.—*Breslau:* Dr. Eduard Müller has been recognised as *privat-docent* of Internal Medicine.—*Freiburg:* Dr. Determann of St. Blasien has been recognised as *privat-docent* of Internal Medicine.—*Giessen:* Dr. P. Krömer has been recognised as *privat-docent* of Midwifery and Gynæcology.—*Kieff:* Dr. Szymanovski has been appointed to succeed Professor Khodin in the chair of Ophthalmology.—*Königsberg:* Dr. A. Stieda has been recognised as *privat-docent* of Surgery and Orthopædics. Dr. Hermann Streit has been recognised as *privat-docent* of Otology and Rhinology.—*Leipsic:* Dr. Hans Pässler, *privat-docent* of Internal Medicine, has been appointed Extraordinary Professor.—*Marburg:* Dr. Lohmann has been recognised as *privat-docent* of Physiology.—*Munich:* Dr. Arno Scheibe has been recognised as *privat-docent* of Otology and Dr. Hubert Gebele as *privat-docent* of Surgery.—*Naples:* Dr. Giuseppe D'Arrigo has been recognised as *privat-docent* of Pathological Anatomy.—*Padua:* Dr. Amilcare Bietti of Pavia has been recognised as *privat-docent* of Ophthalmology.—*Pavia:* Dr. Domenico Della Rovere of Bologna has been recognised as *privat-docent* of Pathological Anatomy.—*Rio de Janeiro:* Dr. Luiz da Costa Chaves Faria has been promoted to the chair of Dermatology in succession to the late Dr. João Pizarro Gabizo.—*St. Petersburg (Military Medical Academy):* Dr. A. Favitski has been promoted to an Extraordinary Professorship of Therapeutics.—*Strasburg:* Dr. Heinrich Ehret, *privat-docent* of Internal Medicine, has been appointed Extraordinary Professor.—*Tomsk:* Dr. Avroroff of St. Petersburg has been appointed Extraordinary Professor of General Pathology.—*Tubingen:* Dr. P. Linser has been recognised as *privat-docent* of Dermatology.—*Vienna:* The council of medical professors has decided to divide the chair of Pharmacology now vacant by the retirement of Professor v. Vogel into two professorships—one of Pharmacology, which has been offered to Professor Hans Meyer of Marburg, and one of Pharmacognosis, which has been offered to Professor Josef Moeller of Gratz.

PHYSICAL VOICE-TRAINING SOCIETY.—On July 29th, at the Clarendon Hotel, Oxford, a breakfast was given by Miss D'Orsey, honorary secretary of the above society, to some of the members of the British Medical Association, and a short business meeting was subsequently held. Canon Ince (regius professor of Divinity and one of the vice-presidents of the society) presided, while Dr. P. Watson Williams (Clifton) acted as vice-chairman. Amongst others present were Canon R. Ottley (regius professor of pastoral theology), Dr. W. Jobson Horne (London), Dr. E. Morton (Wolverhampton), Dr. A. T. Schofield (London), Dr. and Mrs. Stark, M.D. (Oxford), Mr. J. Stewart (Bristol), Dr. Herbert Tilley (London), and Dr. J. Wallace (Weston-super-Mare). The chairman proposed the following motion:—

That the subject of voice-training, being of such vital importance to public speakers, greater attention should be paid to it in education, especially at the public schools and universities, in accordance with the memorial on voice-training of the British Medical Association.

Dr. Williams seconded the motion and said that medical men were being constantly brought into contact with the evil effects of bad voice production. He was of opinion that the educational authorities should take steps by which the evil could be remedied.—The motion was carried.—Dr. Horne then proposed the following motion:—

That the Physical Voice-Training Society, founded by the originators of the memorial on voice training issued by the British Medical Association on Nov. 18th, 1893, is deserving of further support from the medical profession in general and the laryngologists in particular.

Personally he would like to see a national system of voice training established and for that reason he had pleasure in proposing the motion. Dr. Tilley seconded and said that voice training was a question of vital national importance. Some time ago he was invited by the London School Board to give a series of lectures on voice production. At the conclusion of the lectures he was asked to make a report. He did so and he considered that it was foolish that any girl between the age of 20 and 23 who had passed a difficult examination at great expense should be given a class of from 70 to 80 scholars and expected to speak to them for hours without any instruction as to the right use of the voice. He had suggested to the London School Board that if they would only appoint a dozen capable persons who understood the subject of voice production an enormous amount of good would accrue.—The motion was carried.—Dr. Schofield proposed a vote of thanks to Canon Ince and Miss D'Orsey.—The motion was carried unanimously and Canon Ince briefly responded.—The following were elected honorary vice-presidents of the Physical Voice-Training Society—Canon Ottley, Dr. Horne, Dr. Williams, and Dr. Tilley.

Professor V. V. Podvysotski has got an extension of his term, says the *Odessa Novosti*, as doyen of the medical faculty of the Novorossisk University.

UNIVERSITY COLLEGE, LONDON.—The Worshipful Company of Drapers has discharged the debt of the College to its bankers to the amount of £30,000. The treasurer of the College has received from Messrs. Wernher, Beit and Co. their cheque of £10,000 which had been promised to promote the incorporation of University College in the University of London. For the completion of the incorporation scheme there remain £18,000 to be raised. We understand that the new hospital will shortly be finished and will be available for clinical study for the medical session beginning in October. The session 1904–05 will begin in the Faculties of Arts and Laws and of Science on Tuesday, Oct. 4th, and in the Faculty of Medicine on Monday, Oct. 3rd. The introductory lecture will be given by Professor J. N. Collie on Oct. 3rd at 4 P.M. Professor Oliver has been reappointed to the Quain Chair of Botany and Dr. F. J. Poynton has been appointed sub-dean of the Faculty of Medicine in succession to Professor G. D. Thane (resigned) who has received from the council the following resolution :—

That the council desire to place on record their sense of the great services which Professor G. D. Thane has rendered to the College and to the Faculty of Medicine during the 21 years he has held the office of sub-dean to the Faculty of Medicine.

PATENT MEDICINES IN GERMANY.—Mr. Oppenheimer, British Consul-General at Frankfort-on-Main, in his annual report remarks that a law of great moment to the chemical industry which was passed in 1903 came into operation on Jan. 1st, 1904. It concerns the traffic in patent medicines (*Geheim-mittel*). It is thereby enacted that only a certain small number of patent medicines may be sold, with the medical man's orders; 95 patent medicines have been excluded from public advertisement in any form, and in their case it is unlawful to recommend such patent medicines by printing on their enlcosures testimonials, certificates, statements of successes, expert evidence, and thanks. "Undoubtedly it was only intended," Mr. Oppenheimer adds, "to render the sale of such patent medicines more difficult and not to prevent it altogether, but it is generally thought that the provisions of the enactment have overshot the mark. It will cause not only very considerable losses to the pharmaceutical industry but will also affect printing and lithographic establishments, paper, cardboard, glass, and cork factories, quite apart from the loss of workmen's wages. It is thought, moreover, that the prohibition of advertisement will render more easy the sale of imitation patent medicines which can in future only be detected by chance. Finally, it may act as a discouragement in future to chemical factories and experts from paying the same amount of attention to the discovery of new patent medicines which until now have been a great source of revenue to the German chemical industry at large."

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Lunacy Bill Dropped.

THE Lunacy Bill which the Government introduced on the morrow of the debate initiated by Sir JOHN BATTY TUKE has now been formally abandoned so far as the present session is concerned. It is hoped that it may be possible to re-introduce it next year.

Medical Officers in Sparsely Populated Districts.

When several of the Scotch estimates were under discussion on August 9th the question of procuring an adequate supply of medical officers in the more remote and sparsely populated districts in the Highlands of Scotland was mentioned. It was pointed out by the Lord Advocate that it is exceedingly hard to find a way out of the difficulty. In these districts there is little or no private practice possible; the medical officer cannot hope to obtain a much greater remuneration than the fees attaching to any public appointment which he may hold. Is it to be wondered at, he asked, that young and capable men should seek openings elsewhere?

Vaccination in Scotland.

On the same evening some references were made to the administration of the vaccination laws in Scotland. It was complained that a dangerous laxity is permitted. On behalf of the Scotch Local Government Board the argument was used that it does not pay to make martyrs, and that for that reason the administration is less vigorous than in England. But according to the Lord Advocate the majority of the people of Scotland are convinced of the value of vaccination and revaccination and no substantial grievance exists. It was also elicited that only a very small quantity of humanised lymph is now used.

The Home Office Administration.

On Friday, August 5th, a general discussion took place on Home Office administration, especially in reference to factories and workshops. A good deal was said about the inadvisability of employing married women. Mr. BURNS declared that the presence of these women in public works is one of the causes of the physical deterioration of the race. To it also is due in his opinion a considerable percentage of infantile mortality. A demand for the appointment of additional women inspectors was very favourably received by the Home Secretary, who also stated that he had recently received a suggestion which he thought worthy of consideration—namely, that in addition to the qualifications which they now possessed women inspectors should have some experience of hospital work.

Juvenile Smoking.

The Bill to check smoking amongst juveniles which has just been introduced in the House of Common has, of course, no chance of becoming law this year. It has been introduced merely for the purpose of focussing public attention on the subject. Early next session it will be re-introduced. The proposal of the Bill is that any person under 16 who is found smoking shall be liable to a penalty of 10s.—the fine to be recoverable from the parents—and that anyone selling tobacco to a child shall be liable to a fine of 20s. for the first offence and 40s. for the second.

HOUSE OF COMMONS.

WEDNESDAY, AUGUST 3RD.

Experiments on Living Animals.

MR. TOMKINSON asked the Home Secretary whether his attention had been called to the increase in the numbers of medical and surgical experiments performed on living animals, amounting to 19,084 in 1903, as compared with 14,906 in 1902 and 11,645 in 1901, and whether he intended to take any steps to limit the number.—MR. AKERS-DOUGLAS said: The increase pointed out by the honourable Member in the number of experiments in recent years is almost wholly in those included in Table IV. (B) of the annual return—i.e., experiments of the nature of simple inoculations, hypodermic injections, and similar proceedings. It is pointed out on p. 5 of the return that the increase is due mainly to the progressive importance attached to biological tests generally in practical medicine for the diagnosis, treatment, and prevention of disease, and to the more widely recognised need for such experiments on the part of those responsible for the care of the public health. It may be added that over 3000 of the experiments performed in 1903 were made for Government departments or for county or borough councils, and 1313 were made for the Royal Commission on Tuberculosis. Every application for authority to perform experiments is carefully scrutinised, but I am not prepared to take action in the direction suggested.

The Advertising of Patent Medicines.

MR. TANKERVILLE CHAMBERLAYNE asked the Home Secretary whether he would consider the advisability of imposing some restrictions on the advertising of patent medicines with a view to protecting persons of the poorer classes.—MR. AKERS-DOUGLAS answered: I am not sure what class of patent medicines my honourable friend has in mind. The question of legislation for the purpose of dealing with certain evils in this connexion has been considered in my department, but there are many difficulties in the way of framing a measure which would be satisfactory and neither inoperative nor too wide in its scope.

Ankylostomiasis.

MR. MARKHAM asked the Home Secretary whether in view of Dr. Boycott's report on the subject of the diagnosis of ankylostoma infection in mines and its recommendations, and of the fact that following his circular letter of March 10th to the county councils, the medical officer of health to the Derbyshire county council issued a memorandum to the medical men in the county relating to the disease and the precautions which should be adopted to prevent the spreading of this disease, he would now furnish the Derbyshire county council with the necessary powers under the Coal Mines Regulation Act to enable the medical officer of health to give practical effect to the recommendations of Dr. Boycott's report.—MR. AKERS-DOUGLAS said: Dr. Boycott's report deals simply with the mode of detecting ankylostoma infection by examination of the blood and contains no recommendations as to precautions to be taken against an outbreak of the disease. It is true that amongst other steps which, as I have previously explained, I have taken in this matter, I have invited the cooperation of the county councils in the mining districts with a view to their spreading information among miners as to the precautions to be observed and also to their furnishing facilities at the county laboratories for examination of infected matter, but there are no powers under the Coal Mines Act which can be conferred on the county councils.

Return of Death-rates and Infantile Mortality.

SIR WALTER FOSTER asked the President of the Local Government Board whether he would grant a return of the death-rates and infantile mortality of the London unions and of the unions of Manchester, Liverpool, Birmingham, Sheffield, Leeds, and Bristol, with information as to the ratio of indoor and outdoor pauperism to the population, and the total cost of Poor-law relief in these unions per head of population.—MR. LONG said: I am willing to give a return of the kind indicated by the honourable Member. I do not gather, however, for what period the information is desired, and perhaps the honourable Member will send me the draft of a notice of motion indicating more precisely what he wishes on this point. I shall then be happy to consider its terms before it is put down.

Hygienic Conditions of China and Earthenware Factories.

SIR CHARLES DILKE asked the Home Secretary whether his attention had been called to the statement at p. 219 of the Factories Annual Report, to the effect that many china and earthenware factories were dilapidated and in great need of hygienic improvement; and whether, seeing that recommendations for the closing of the worst

of such factories had been made since 1883 by committees and by Government experts appointed to advise the Government upon the dangerous processes, and in view of the power under Section 18 of the Factory and Workshops Act, 1901, to carry out such recommendations, he would state whether any such steps had been taken in the Potteries; and, if not, whether he would take such action.—MR. AKERS-DOUGLAS replied: I am aware of the statement in the annual report of the Chief Inspector of Factories and of the recommendations to which the right honourable baronet refers. The inspector of factories, however, has no power to require the alteration or demolition of dilapidated premises. Section 18 of the Factory Act only gives power to the inspector to apply to a court to make an order and before the order can be made he is required to prove to the satisfaction of the court that the condition of the premises is such as to be dangerous to health or to life or limb. So far no case has appeared strong enough to make an application under that section advisable. The general condition of the factories, though bearing little on the special dangers of the pottery industry, is, however, one to which the inspectors give attention, and it is reported to me that during the past few years a considerable amount of renovation has been done and the general condition substantially improved. Some also of the older factories have been closed. The matter shall not be lost sight.

Royal Commission on Arsenical Poisoning.

MR. ROUND asked the President of the Local Government Board whether, in view of the alleged physical degeneration of the people, he would take steps to give effect to the recommendations of the Royal Commission on Arsenical Poisoning by appointing a special expert officer to inquire into, and to advise upon, all questions affecting the purity of manufactured or prepared foods, whether of home or of foreign origin.—MR. LONG said: I have not at present come to a decision on this subject. The recommendations of the Royal Commission are now receiving my attention and in connexion with them I shall consider the proposal to appoint a special expert officer of the kind suggested.

THURSDAY, AUGUST 4TH.

The Preservation of Imported Meat.

MR. ALFRED DAVIES asked the President of the Local Government Board whether he could state the various methods by which decomposition was arrested in meat sent from abroad to our shores and whether he was aware that boric acid or boracic acid was frequently injected into the carcases of animals for export at the time of killing and that experiments had been tried, with the result that on arrival carbonate of soda was found to effervesce upon the meat so treated; and whether he had any official reports on the effect of the partaking of boric or boracic acid upon human beings, and, if so, whether he would lay them upon the table.—MR. LONG replied: I understand that the ordinary methods by which decomposition is prevented or arrested in meat coming from abroad are (1) cold storage; (2) salting, with or without drying; and (3) preservation in cans. According to the evidence given before the Departmental Committee on Food Preservatives, borax and boric acid (which is called boracic acid) are largely used for the preservation of bacon, hams, sausages, and other preserved meats, but not by means of injection into carcasses of animals at the time of killing. No evidence appears to have been given to show that carcasses of butchers' meat are preserved in this way. I have no information as to the alleged experiments nor have any reports been made to me on the effect of the partaking of boric or boracic acid upon human beings. The honourable Member is probably aware of the report of the departmental committee to which I have referred. It has been laid before Parliament.

Physical Deterioration.

MR. WEIR asked the Secretary to the Board of Education whether he was aware that the Committee on Physical Deterioration in its report just issued expressed the opinion that instruction in cookery, hygiene, and domestic economy should as far as possible be made compulsory on the older girls at school; and whether he would consider the expediency of adopting this recommendation.—SIR WILLIAM ANSON replied: The various recommendations of the Committee on Physical Deterioration will certainly receive the careful consideration of the Board. The question of instruction in cookery, hygiene, and domestic economy is one which has lately been specially investigated by the Board and is now receiving its most careful attention.

Horse Flesh for Food.

MR. CREMER asked the Under Secretary of State for Foreign Affairs whether he would direct inquiries to be made by the British consuls, or some other reliable authority, in Holland, Belgium, and Germany, concerning the number of old and slaughtered horses or horses unfit for work that were periodically exported from this country, with a view of ascertaining for what purpose their carcasses were used and whether their flesh was made into condiments of various kinds, returned to this country, and sold as articles of food.—Earl PERCY answered: As regards the first paragraph of the honourable Member's question I will inquire whether the statistics could not be obtained through the Government Department here. As regards the last paragraph there is no objection to instructing His Majesty's representatives abroad to ask for the information which the honourable Member desires.

FRIDAY, AUGUST 5TH.

The Medical Officer of Harris.

MR. WEIR asked the Secretary for Scotland whether he was aware that the return, Parochial Medical Officers (Scotland), was inaccurate in stating that the post of medical officer for Harris was vacant only once during the seven years prior to 1903, inasmuch as Dr. Macdonald was appointed to North Harris early in 1897, and during the end of 1898 Dr. Fletcher was appointed; in South Harris a Birmingham medical man was appointed to succeed Dr. Robertson in 1898 and Dr. Fraser was appointed in 1900; and whether he would take steps to have the accuracy of the return tested, in so far as Barra and South Uist were concerned.—MR. GRAHAM MURRAY said: The Local Government Board has communicated with the inspector of poor of Harris in regard to the return of medical officers furnished by him and it finds that since July, 1896, there has been a change in the medical officership of South Harris five times and in that of North Harris twice. It appears that there has been some misunderstanding as to the meaning of the return. The inspector explains that he understood the inquiry to mean the number of times that the parish was without a medical officer and did not regard as vacancies those occasions on which one medical officer succeeded another without an interval of time. The Board is inquiring into the details of the returns received from Barra and South Uist.

MONDAY, AUGUST 8TH.

Treatment of Poor Consumptives.

MR. CROOKES asked the President of the Local Government Board whether, having regard to the request of the various boards of guardians in the metropolis that a central authority should take over the treatment of poor consumptives at present chargeable to the poor rates, he would issue an order to the Metropolitan Asylums Board to undertake the care of these consumptive patients.—MR. LONG said: I have received representations from some metropolitan boards of guardians in favour of this proposal and I have communicated with the Metropolitan Asylums Board on the subject. It realises not only its magnitude and importance, but also the extension of its duties and responsibilities and the large increase in its expenditure which it would involve, and it wishes for some expression of opinion from my department before proceeding further. I share these views as to the far-reaching character of the proposal. It is one which requires very careful consideration and I am not at present in a position to express a definite opinion with regard to it. It will, however, continue to receive my attention.

Conscientious Objectors to Vaccination.

MR. WEIR asked the Home Secretary whether he was aware that numerous conscientious objectors to vaccination in various parts of the country had recently been refused certificates of exemption and what steps he proposed to take to enable such objectors to vaccination to obtain certificates.—MR. AKERS-DOUGLAS said: Representations on this matter reach me from time to time, but I am not aware of any special development of it recently. I have no authority over the exercise of the discretion of the magistrates, but I may perhaps draw attention to the fact that the Lord Chief Justice in addressing the grand jury at Birmingham on July 27th discussed the principles on which the Act ought to be administered and I hope that his comments will be generally studied and will do much to remove misapprehensions and to secure a more uniform administration of the law.

BOOKS, ETC., RECEIVED.

BAILLIÈRE, TINDALL, AND COX, 8, Henrietta-street, Covent-garden, W.C.

Handbook of Meat Inspection. By Robert Ostertag, M.D., Professor in the Veterinary High School at Berlin. Translated by E. Vernon Wilcox, M.A., Ph.D., Veterinary Editor, Experiment Station Record. With an introduction by John R. Mohler, M.A., D.V.M., Chief of Pathological Division, United States Bureau of Animal Industry. Price not stated.

Practical Chemistry, including Simple Volumetric Analysis and Toxicology. Containing Sections specially adapted to the requirements of the Preliminary Science Examination of the Conjoint Board of the Royal Colleges of Physicians and Surgeons and the Preliminary Scientific Examination of the University of London. By P. A. Ellis Richards, F.I.C., Professor of Chemistry at Queen's College, London; Public Analyst to the City of Westminster; Analyst to Charing Cross Hospital, and Assistant Lecturer on Chemistry and Toxicology in the Medical School. Price 3s. net.

BAILLIÈRE, J. B. ET FILS, 19, Rue Hautefeuille, Paris.

Le Soignage Médical et les Infirmières: Ce qu'elles sont en France, ce qu'elles sont en Angleterre, ce qu'elles devraient être. Par le Dr. Marc Blatin. Price not stated.

CHURCHILL, J. AND A., 7, Great Marlborough-street, W.

A Pharmacopœia, including the Outlines of Materia Medica and Therapeutics for the Use of Practitioners and Students of Veterinary Medicine. By the late Richard V. Tuson. Sixth edition. Revised and edited by James Bayne, F.I.C., F.C.S., late Professor of Chemistry and Toxicology at the Royal Veterinary College. Price 7s. 6d. net.

The Health Scholarship Prize Essay on the Development and Anatomy of the Prostate Gland, together with an Account of its Injuries and Diseases and their Surgical Treatment. By W. G. Richardson, M.B., B.S., F.R.C.S., Assistant Surgeon at the Royal Infirmary, Newcastle-on-Tyne. Price 10s. 6d. net.

CLARENDON PRESS, Oxford (HENRY FROWDE, London).

The Fitz-Patrick Lectures for 1903. English Medicine in the Anglo-Saxon Times. Two Lectures delivered before the Royal College of Physicians of London, June 23rd and 25th, 1903. By Joseph Frank Payne, M.D. Oxon., Fellow and Harveian Librarian of the College of Physicians. Price 8s. 6d. net.

LAYTON, CHARLES AND EDWIN, 56, Farringdon-street, E.C.

Handy Newspaper List. 1904. Price 6d.

The Insurance Register. 1904. (Thirty-sixth year of publication.) By Arthur Wyndham Tarn, F.I.A., Editor of "The Insurance Guide and Hand-book." Price 1s.

LONGMANS, GREEN, AND CO., 39, Paternoster-row, E.C.

Motors and Motor-driving. By Alfred C. Harmsworth and other Writers. Third edition. Price 9s. net.

An Introduction to the Study of Spectrum Analysis. By W. Marshall Watts, D.Sc. Lond., B.Sc. Vict., F.I.C. Price 10s. 6d. net.

Electro-Chemistry. Part I. General Theory. By R. A. Lehfeldt, D.Sc., Professor of Physics at the East London Technical College. Including a Chapter on the Relation of Chemical Constitution to Conductivity by T. S. Moore, B.A., B.Sc., Lecturer in the University of Birmingham. Price 5s.

ORIENT PRESS, 26, Paternoster-square, E.C.

The Wisdom of the East Series. The Awakening of the Soul. A Philosophical Romance. Rendered from the Arabic of Ibn Tufail, with an Introduction by Dr. Paul Brönnle, F.R.G.S., F.R.Hist.S., M.R.A.S., &c. Price 1s. 6d. net.

HEIMAN, LIMITED, 129, Shaftesbury-avenue, W.C.

Progressive Medicine. Edited by Hobart Amory Hare, M.D., assisted by H. R. M. Landis, M.D. Vol. I., March 1st, 1904; Vol. II., June, 1904. Price 12s. net each volume. Subscription price £2 per annum.

An Atlas of Human Anatomy. For Students and Physicians. By Carl Toldt, M.D., Professor of Anatomy in the University of Vienna, assisted by Professor Alois Dalla Rosa, M.D. Translated from the Third German Edition and adapted to English and American and International Terminology by M. Eden Paul, M.D. Brux., M.R.C.S., L.R.C.P. Fifth section. F. Angeiology. Price 13s. 6d. net.

SAUNDERS, W. B. AND CO., 9, Henrietta-street, Strand, W.C.

Epilepsy and its Treatment. By William P. Spratling, M.D., Medical Superintendent of the Craig Colony for Epileptics, Sonyea, New York. Price 18s. net.

SCIENTIFIC PRESS, LIMITED, 28 and 29, Southampton-street, Strand, W.C.

The Pocket-book of Temperature Charts. Containing 17 twelve-hour and 8 four-hour Charts. Price 6d. net.

SHERRATT AND HUGHES, 27, St. Ann-street, Manchester.

The Medical Chronicle. A monthly Record of the Progress of Medical Science. Edited by E. M. Brockbank, M.D. Whole series, Vol. XXXIX. Fourth series, Vol. VI. October, 1903, to March, 1904. Price 10s. 6d.

STANFORD, EDWARD, 12, 13, and 14, Long-acre, W.C.

Handbook for Switzerland and the Adjacent Regions of the Alps. Nineteenth edition, completely remodelled and thoroughly revised. With 34 travelling maps and plans. (Murray's Foreign Handbooks.) Price 10s.

STEINHEIL, G., 2, Rue Casimir-Delavigne, Paris.

La Radiothérapie: Son Application aux Affections cutanées. Par le Docteur J. Belot. Preface de Monsieur le Docteur Brocq. Médecin de l'Hôpital Broca. Price fr. 15.

Chirurgie Orthopédique. Par le Professeur Paul Berger et le Docteur S. Banzet, Chef du Laboratoire de Médecine opératoire à la Faculté de Médecine de Paris. Price fr. 20.

STOCK, ELLIOT, 62, Paternoster-row, E.C.

Municipal Shortcomings. A Series of Articles contributed to the *Liverpool Journal of Commerce*. By T. Myddelton Shallcross. Price 1s. net.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

ARCHIBALD, R. G., M.B., Ch.B. Edin., has been appointed Assistant Resident Medical Officer to the St. Mary's Hospital for Sick Children, Plaistow, E.

BLAIR, JOHN, M.D. R.U.I., has been appointed Honorary Assistant Medical Officer to the Royal Albert Edward Infirmary, Wigan.

BURTON, H., M.D. Durh., M.R.C.S. Eng., L.R.C.P.I., L.S.A., has been appointed Certifying Surgeon under the Factory Act for the Marple District of the county of Chester.

CLEVELAND, J. W., M.R.C.S., L.R.C.P. Lond., has been appointed House Surgeon to the Royal Berkshire Hospital, Reading.

FLANNERY, J. G., L.R.C.P.I., L.R.C.S.I., has been appointed Certifying Surgeon under the Factory Act for the Tubbercurry District of the county of Sligo.

GIBSON, A. HORACE, M.B., Ch.B. Melb., has been appointed Resident Medical Officer at the Brisbane Hospital, Queensland, Australia.

GREENE, ARNOLD J., M.R.C.S. Eng., L.R.C.P. Lond., has been appointed Assistant Medical Officer to the Royal Albert Edward Infirmary, Wigan.

KEMP, W., M.B., C.M. Edin., has been appointed Certifying Surgeon under the Factory Act for the Castleford District of the county of York.

LISTER, THOMAS DAVID, M.D. Lond., M.R.C.P. Lond., has been appointed Honorary Consulting Physician to the Benevolent Fund of the National Union of Teachers.

MACCORMAC, HENRY, M.B., Ch.B. Edin., has been appointed an Assistant Resident Medical Officer to the Royal National Hospital for Consumption and Diseases of the Chest, Ventnor, I.W.

MACKLIN, T. T., M.D. Glasg., has been appointed Certifying Surgeon under the Factory Act for the Whalley District of the county of Lancaster.

MACLEAN, EWEN J., M.D., M.R.C.P. Lond., F.R.S. Edin., has been appointed Lecturer on Midwifery (under the Midwives Act) to the University College of South Wales and Monmouthshire, Cardiff.

PERRAM, E. A., M.D. Lond., has been appointed Certifying Surgeon under the Factory Act for the Whitchurch District of the county of Salop.

POYNTON, F. J., M.D. Lond., F.R.C.P. Lond., has been appointed Sub-Dean of the Faculty of Medicine at the University College, London.

REES, FERDINAND, M.D. Glasg., has been appointed Honorary Assistant Medical Officer to the Royal Albert Edward Infirmary, Wigan.

SHELDON, HUGH F., M.R.C.S., L.R.C.P. Lond., has been appointed Civil Surgeon to the Military Hospital, Potchefstroom, Transvaal.

SHELDON, JOHN H., M.B. Lond., &c., has been appointed Medical Officer to the Globe and Phœnix and Gaika Gold Mining Companies, Sebakwe, Rhodesia.

THOM, ANDREW, L.D.S. Edin., has been appointed Honorary Dentist to the Royal Albert Edward Infirmary, Wigan.

TURNER, ALFRED JEFFERIS, M.B., M.D. Lond., has been appointed Acting Visiting Medical Officer of the Diamantina Hospital for Chronic Diseases, Queensland, Australia, during the absence of Dr. F. W. E. Hare.

WICKHAM, G. H., M.B., B.C. Cantab., has been appointed Certifying Surgeon under the Factory Act for the Fleet District of the county of Southampton.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

AXMINSTER, DEVON COUNTY ASYLUM.—Assistant Medical Officer. Salary £125, rising to £155, with board and lodgings.

BIRKENHEAD AND WIRRAL CHILDREN'S HOSPITAL.—House Surgeon. Salary £100 per annum, with board, residence, and laundry.

BIRMINGHAM GENERAL HOSPITAL.—Casualty Assistant Physician. Salary £50 per annum.

BOOTLE, LIVERPOOL GENERAL HOSPITAL.—Senior Resident. Salary £100 per annum, with board and laundry.

BRIGHTON, SUSSEX COUNTY HOSPITAL.—Third House Surgeon. Salary £50 per annum, with board and residence.

BRIGHTON THROAT AND EAR HOSPITAL, Church-street, Queen's-road.—Non-Resident House Surgeon for six months, renewable. Salary at rate of £75 per annum.

BRISTOL EYE HOSPITAL.—House Surgeon. Salary £80, with board and residence.

CUMBERLAND SANATORIUM FOR CONSUMPTION, near Threlkeld, Keswick.—Resident Medical Superintendent. Salary £150 per annum.

DOUGLAS, ISLE OF MAN, NOBLE'S GENERAL HOSPITAL AND DISPENSARY.—Resident House Surgeon, unmarried. Salary £82 per year, with board and washing.

DUMFRIES AND GALLOWAY ROYAL INFIRMARY.—House Surgeon. Salary £80 per annum, with board and washing.

EBBW VALE WORKMEN'S MEDICAL FUND COMMITTEE.—Senior Surgeon. Salary £500 per annum.

GUILDFORD, ROYAL SURREY COUNTY HOSPITAL.—Assistant House Surgeon. Salary £50, with board, residence, and laundry.

INGHAM INFIRMARY AND SOUTH SHIELDS AND WESTOE DISPENSARY.—Junior House Surgeon. Salary £75 per annum, with residence, board, and washing.

LANCASTER ROYAL INFIRMARY.—House Surgeon, unmarried. Salary £100 per annum, with residence, board, attendance, and washing.

LIMPLEY STOKE, NEAR BATH, OPEN-AIR SANATORIUM FOR CONSUMPTIVES.—Resident Medical Officer. Salary £200 per annum, rising to £300.

LIVERPOOL UNITED HOSPITALS CLINICAL SCHOOL.—Medical and Surgical Tutors.

MANCHESTER CHILDREN'S HOSPITAL.—Junior Resident Medical Officer, unmarried, for six months. Salary at rate of £80 a year, with board and lodging.

NORTH CAMBRIDGESHIRE HOSPITAL, Wisbech.—Resident Medical Officer, unmarried. Salary £100 per annum, with furnished rooms, attendance, coals, gas, and washing.

OXFORD, RADCLIFFE INFIRMARY.—Junior House Surgeon, unmarried, for six months. Salary at rate of £40 per annum, with board, &c.

PAPA WESTRAY, Orkney.—Lady Medical Officer and Public Vaccinator. Salary £75, with fees, house, and garden.

RAINHILL (NEAR LIVERPOOL) COUNTY ASYLUM.—Assistant Medical Officer as Locum Tenens for a few weeks. Salary £4 4s. per week, with apartments and board.

READING, ROYAL BERKSHIRE HOSPITAL.—Assistant House Surgeon. Salary £60 per annum, with board, lodging, and washing.

ST. BARTHOLOMEW'S HOSPITAL.—Physician.

TOTTENHAM HOSPITAL.—House Physician for six months. Salary £60 per annum, with board, residence, and laundry.

UNIVERSITY OF LONDON.—Scientific Assistant in Pathology. Salary £50 per annum.

WEST BROMWICH DISTRICT HOSPITAL.—Resident Junior House Surgeon. Salary £50 per annum, with board, lodging, washing, and attendance.

Births, Marriages, and Deaths.

BIRTHS.

BEVAN.—On August 6th, at Kensington-garden-terrace, W., the wife of Arthur Bevan, M.D. Lond., of a daughter.

FALCONAR.—On August 5th, at Tregenna House, Shirehampton, near Bristol, the wife of H. Barclay Falconar, Surgeon, of a daughter.

HARDENBERG.—On July 31st, at Duffield House, Watford, the wife of E. F. H. Hardenberg, M.B., M.R.C.S., L.R.C.P., of a daughter.

HARRISSON.—On August 6th, at the Priory, St. Neots, Hunts, the wife of Ernest Henry Harrisson, M.B., B.C., B.A. Cantab., of a son.

NAISH.—On August 4th, at 1, Marlborough-avenue, Wadsley-lane, Sheffield, the wife of A. E. Naish, M.B., of a son.

WALKER.—On August 9th, at Wilford Lodge, Esher, the wife of Reginald F. Walker, M.R.C.S., L.R.C.P., of a son.

DEATHS.

BEACH.—On the 6th August, at Winchester House, Kingston-hill, Surrey, Emily Dora, wife of Dr. Fletcher Beach, in her 46th year.

RUXTON.—On August 5th, at 4, Brighton Parade, Blackpool, John Ruxton, M.D. Aberd., Consulting Surgeon to the Victoria Hospital, Blackpool, and late of the 17th (Leicestershire) Regiment, aged 55.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

MEDICAL ETIQUETTE.

At a meeting of the Burslem town council on August 7th Alderman T. Edwards is reported as having asked whether the medical officer of health saw all the cases of infectious disease notified before they were sent to the hospital. The chairman of the sanitary committee, Mr. Councillor Cartlidge, replied that the medical officer did not "as medical etiquette debarred him." Alderman Edwards thereupon said that the council should disregard such "etiquette." It was understood that the matter would come before the next meeting of the sanitary committee. The chairman of the sanitary committee of Burslem, in common with the majority of the public, does not understand what is meant by "medical etiquette." It is no part of the duty of a medical officer of health to pay a personal visit to every patient who is notified to him. The Infectious Diseases Notification Act imposed no fresh duties on the medical officer of health. The duty of the medical officer of health is to inquire into the circumstances and causes of an outbreak of infectious disease and he has full responsibility for how he may best carry out such an inquiry. He has no right to enter any private premises, except with a magistrate's order, but of course an application for leave to see the patient addressed to the medical man in charge of the patient and to the latter's friends would never be refused. The general practitioner is, as a rule, perfectly ready to discuss the diagnosis of a case with the medical officer of health and no trouble has ever arisen in the matter save where the medical officer of health has been unfortunately official in his demeanour. All these points have been dealt with in our columns in a series of articles which appeared in THE LANCET as far back as 1895.

MOTOR-CARS FOR MEDICAL MEN.

To the Editors of THE LANCET.

SIRS,—Are motor-cars cheaper than horses for a medical man? is such an important question that I feel sure you will think the statement of manufacturers' agents worth publishing space. For years I have contracted with the Victoria Carriage Co. for broughams, having a new one each year, and I lately wrote to them asking them to quote me prices for the motor-cars for which they are agents under the same conditions—that is, that they should keep it in repair and exchange for a new one every year. Their answer is that their terms would be so expensive that it would be satisfactory neither to me nor to them and they would not even give me a quotation. I keep two horses and one motor-car but so far my motor-car has cost me more than a horse, though not a year old, and my experience goes to show that no motor-car will stand regular wear, say six hours a day, for one year, and it seems that the manufacturers know it will not. I and many others would gladly pay £100 a year to feel we had a motor-car always in a fit condition to go and no horses to worry about. Will the time ever come?

I am, Sirs, yours faithfully,

Plaistow, July 30th, 1904. A. E. KENNEDY.

WHO IS TO PAY?

To the Editors of THE LANCET.

SIRS,—A policeman during the night comes for a medical man to go to see a man at his home with a broken leg previous to removal to the union hospital. Whose duty is it to pay the night visit fee? I have received the account (5s.) back from the chief constable stating that he cannot pay it. Can the district medical officer be expected to attend without being paid if the man is not in receipt of relief and the police constable comes without the ordinary request paper from the relieving officer for parish attendance?

I am, Sirs, yours faithfully,

August 1st, 1904.

*** We shall be interested to hear why this fee was not paid.—ED. L.

THE TREATMENT OF METATARSALGIA.

To the Editors of THE LANCET.

SIRS,—I should be grateful if some of your readers could give me a few hints as to the treatment of an obstinate case of metatarsalgia. The patient is a young lady, 23 years of age, and has suffered for about two years. Previous to the symptoms she had worn high heels but since then she has worn quite sensible boots. She has no excessive amount of standing or walking to do. The pain is getting worse rather than better, coming on at times in such force as to oblige her to stop in the street.

I am, Sirs, yours faithfully,

August 9th, 1904. F.R.C.S.E.

THE PROMENADE CONCERTS AT QUEEN'S HALL, LONDON.

THE present season of promenade concerts opened on August 6th, when the hall was packed from floor to ceiling. There is no greater rest to the mind than to listen to good music well played and Mr. Wood, his band, and those responsible for the organisation of the concerts deserve much thanks. The recent changes in the orchestra rendered it inevitable that the various items should not be given with that precision and delicacy to which Queen's Hall audiences have been accustomed, but it is also evident that in a week or so the new band may be expected to play as well as did the old one. On the opening night it struck us that Mr. Wood allowed his brass to be rather too prominent, especially as regards the trombones. The strings showed to great advantage, markedly (together with the wood wind) in the Peer Gynt Suite and by themselves in two items by Bach. The only novelty in the programme was an organ concerto by Signor Enrico Bossi, which was not particularly interesting.

THE CONSULTING-ROOM THIEF.

To the Editors of THE LANCET.

SIRS,—Would you kindly warn your readers against a consulting room thief who is again at large after having been in prison for numerous thefts from medical men? The man called on me to make an appointment for a "relative who lived in the country," &c., &c. Two days later he again called, this time when he knew I should be out, and asked to be allowed to wait for me as he could not come later in the day. He took what things of value he could find and soon decided that he could not wait any longer. He passes as a German or an Austrian, is well dressed, most polite in his manner, well-read, and understands every move in the game. He is about five feet seven inches in height, fair, clean shaved, and about 21 years of age; he is well set up and can easily pass as a foreign gentleman of means. He is wanted by the police for several thefts from medical men and should be detained if possible whenever he appears.

I am, Sirs, yours faithfully,

Gloucester-terrace, W., August 9th, 1904. ARTHUR JAMES.

HOLMAN TESTIMONIAL FUND.

THE following additional subscriptions to the above fund have been received. Further subscriptions, which may be sent to Dr. John H. Galton, Chunam, Sylvan road, Norwood, S.E., or to Mr. W. A. Berridge, Oakfield, Redhill, Surrey, are needed and will be announced at the close of the vacation.

	£	s.	d.		£	s.	d.
Dr. Edgar G. Barnes ...	1	1	0	Mr. W. Bramley Taylor	1	1	0
Sir Thomas Stevenson ...	1	1	0	Dr. W. Douglas	1	1	0
Professor Clifford Allbutt, F.R.S.	1	1	0	Dr. Charles Drage	1	1	0
Dr. John J. Nason, J.P.	1	1	0	Mr. Reginald G. Hansell	1	1	0

Anxious One, in the first place, need not be anxious. Exercises steadily persevered in may develop the muscles in question but it is of no consequence if they remain small. Most advertised electrical appliances are valueless.

X. Y. Z.—If the proceedings of "Dr." B. were brought before the General Medical Council we think that his employer would probably be adjudged guilty of covering.

ERRATUM.—In THE LANCET of August 6th, p. 426, under the heading of "Royal College of Physicians and Surgeons of Edinburgh and Faculty of Physicians and Surgeons of Glasgow," after First Examination (Four Years' Course), George Vernon Edwards, Kendley, Cheshire, should read *George Vernon Edwardes, Heatley, Cheshire.*

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (15th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.).

TUESDAY (16th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Royal Ear (3 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.).

WEDNESDAY (17th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.) Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.) London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

THURSDAY (18th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

FRIDAY (19th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.).

SATURDAY (20th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (15th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—3 P.M. Dr. Saunders: Demonstration in Medical Wards.

TUESDAY (16th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. Ball: Middle Ear Suppuration (with lantern slides).

WEDNESDAY (17th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. Saunders: Investigation of Headaches and their Treatment.

THURSDAY (18th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—4 P.M. Mr. Armour: Demonstration in Surgical Wards.

FRIDAY (19th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. Bidwell: Malignant Disease of the Colon.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index to Vol. I. of 1904, which was completed with the issue of June 25th, and the Title-page to the Volume, were given in THE LANCET of July 2nd.

VOLUMES AND CASES.

VOLUMES for the first half of the year 1904 are now ready. Bound in cloth, gilt lettered, price 18*s*., carriage extra.

Cases for binding the half year's numbers are also ready. Cloth, gilt lettered, price 2*s*., by post 2*s*. 3*d*.

To be obtained on application to the Manager, accompanied by remittance.

TO SUBSCRIBERS.

WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices.

Subscribers, by sending their subscriptions direct to THE LANCET Offices, will ensure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect.

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METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Aug. 11th, 1904.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind	Rainfall.	Solar Radiation in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks at 8.30 A.M.
Aug. 5	29·95	W.	...	128	78	64	63	68	Cloudy
,, 6	29·99	S.W.	...	95	70	61	60	63	Overcast
,, 7	30·06	W.	...	122	73	57	58	62	Cloudy
,, 8	30·17	N.E.	...	121	75	59	57	64	Fine
,, 9	30·15	N.	...	120	75	58	56	63	Fine
,, 10	30·00	N.	...	118	72	58	56	62	Cloudy
,, 11	29·82	S.W.	...	75	63	58	56	63	Overcast

During the week marked copies of the following newspapers have been received:—*Sunday Times, Ross-shire Journal, Reading Mercury, Times of India, Aberdeen Weekly Free Press, Daily Mail, Westminster Gazette, Burnley Express, Globe, Bradford Observer, Wigan Examiner, Glasgow Herald, Lincoln Herald, Windsor and Eton Express, Derbyshire Courier, Manchester Weekly Chronicle, People's Friend, Darlington Echo, Hull Times, Yorkshire Observer, Manchester Despatch, Journal of Commerce, The Standard, &c.*

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